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ABSTRACT

This book was designed to be read by new teachers. The first section is devoted to a description of the Montgomery County Public Schools' new teacher orientation program, a program based on a self-improvement strategy. The program description places the emphasis on microteaching; there are weekly group meetings with a leader, but as time progresses the leader will assist only if there are problems. The rest of the book is devoted to a series of essays on subjects that may be of assistance to a new teacher; these include lesson planning, the teaching process, behavioral objectives, classroom management, and evaluation programs and practices. A list of selected readings is included. (JA)

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THE NEW TEACHER ORIENTATION PROGRAM

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FOREWORD

During the spring of 1972, two task forces of teachers and principals were established and charged with developing recommendations for the systematic orientation of new teachers. The recommendations of the task forces form the basis of the program described in this book.

The materials in this volume are designed for your use as the need arises. By using it as a guide to the other resources available to you, you should find help for most of the problems you may encounter during your first years of teaching. For you to gain the maximum benefit from this book, the following procedure is suggested:

- Before classes begin, read over this volume.
- Discuss any questions with your leader.
- Occasionally throughout the school year, skim through the materials again.
- Use the materials as a reference whenever you encounter a related problem.

This volume is divided into five modules:

- Module I describes the Montgomery County New Teacher Orientation Program in which you will participate
- Module II deals with the instructional process in general
- Module III deals with plans for instruction
- Module IV deals with classroom management
- Module V deals with evaluating instruction

The purpose of a program of orientation for new teachers is to provide the support necessary to make them effective in teaching and to feel success in dealing with the most challenging years in their career. Your program leaders will be available to provide both immediate and long-range help for you to solve your problems. A supporting staff of specialists in your administrative area and in the central office is also available to provide assistance to you during your career with Montgomery County Public Schools.

Homer O. Elseroad
Superintendent of Schools

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MODULE I

THE MONTGOMERY COUNTY PUBLIC SCHOOLS

NEW TEACHER ORIENTATION

PROGRAM

DESCRIPTION OF THE PROGRAM

The program is designed to help you learn to improve your own teaching. Program leaders have been assigned to assist you in learning a means whereby you can conduct your own teaching improvement program by yourself. The program is designed to provide you with a maximum amount of help during your challenging and busy first year of teaching in the school system, and to help you assess your teaching strengths and inservice needs.

The program is based upon three premises:

1. Direct attention to the teaching act is more likely to produce change than development of new content or materials alone.

2. The majority of teachers can be trained to direct their own improvement efforts.

3. Self-directed change is more likely to produce persisting changes.

The program chosen is an adaptation of the Teaching Behavior Improvement Program developed in 1967-1969 by the Michigan-Ohio Regional Educational Laboratory (MOREL), an inservice teacher self-improvement program developed and tested in real school situations that has demonstrated its effectiveness in changing teacher behavior. It is based on behaviorally-stated goal setting by the teacher, practice of new skills, feedback about teaching performance, and self-analysis of the dissonance between goals and practice.

THE SELF-IMPROVEMENT STRATEGY

Each new teacher learns to direct his own improvement in teaching. Thus, it is a continuing, self-renewing program. In order to establish a basis for this self-renewal, you will take part in weekly* small group meetings and, with the help of a leader, work through a three-phase improvement strategy (See Figure 1). Each new teacher should work through the seven steps of the improvement strategy shown in Figure 1 approximately three times. The first time (Phase I) the leader will give a great deal of assistance, the second time (Phase II) he will be less active, and the third time (Phase III) the leader will assist only if the new teacher encounters some problems.

The improvement strategy in Figure 1 is an integral part of your classroom teaching. Many of the improvement strategy activities will be performed in your classroom; and experiences from the classroom will be used for discussion and analysis in the improvement strategy.

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*The groups may meet more frequently early and late in the program and reduce the number of group meetings during the time teachers are working through the improvement strategy.

THE IMPROVEMENT STRATEGY

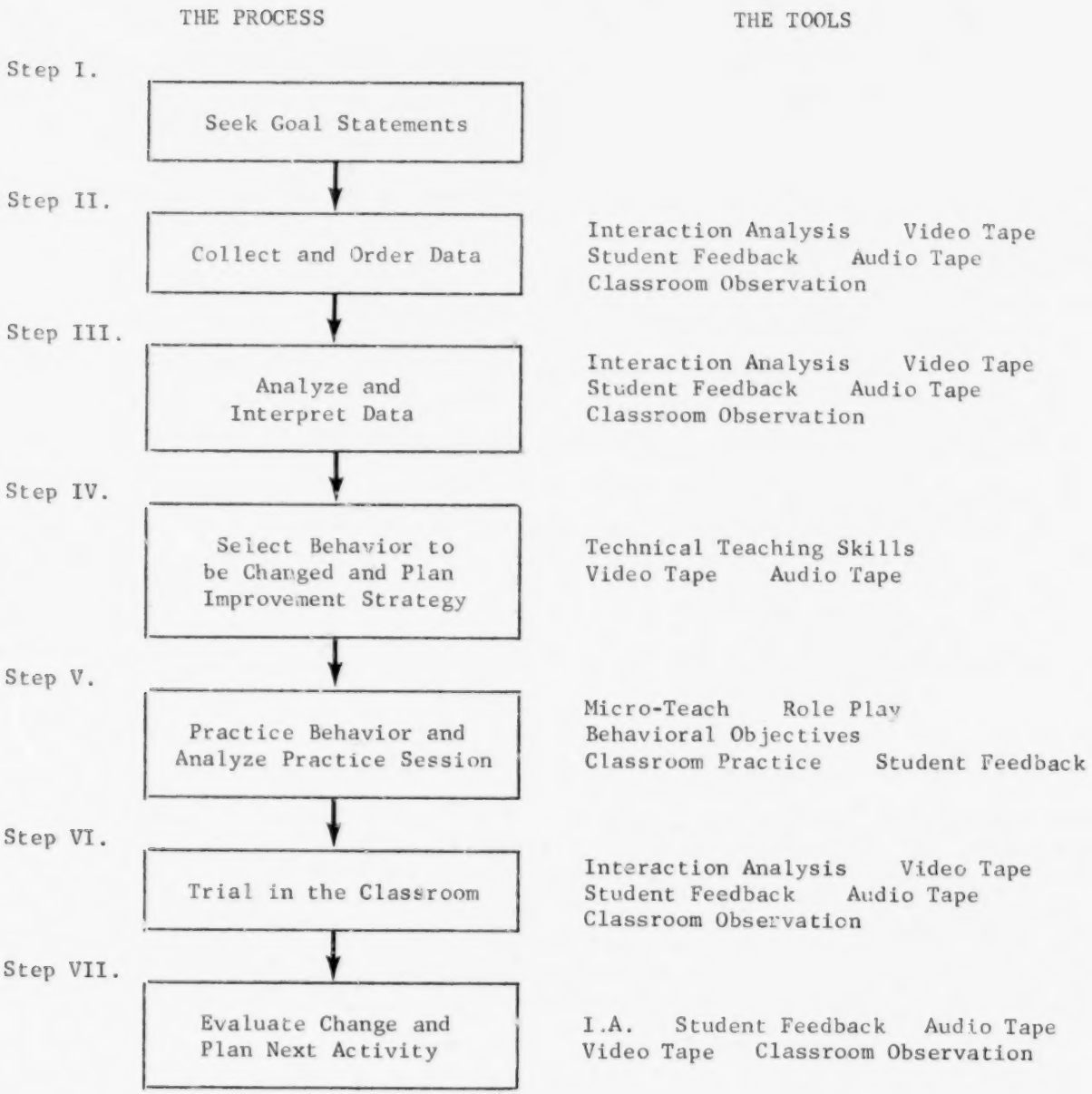

Figure 1
(from Teaching Behavior Improvement Program, MOREL, p. 26)

Refer to pp. 27-30 in this text from your support library for a schedule of activities and the tools to be used.

PROGRAM LEADERS

The three basic responsibilities of your program leader are:

1. To serve as group leader for small group meetings;

2. To provide assistance in interpreting materials or in calling on other resources;

3. To meet individually with you during the time you are working through the three phases of the improvement strategy.

HOW THE PROGRAM WORKS

1. Weekly Meetings with Program Leaders

   Groups will meet each week with the program leader. These weekly meetings serve a number of vital functions:

   a. They provide the opportunity for teachers to learn to work together on professional improvement.

   b. They offer a situation for learning the specific tools for analyzing instruction (interaction analysis, behavioral objectives, video tape recorders, audio tape recorders).

   c. They provide a framework for following up the individual improvement strategy.

   d. They assist you in applying the ideas and materials contained in the program library.

   The meetings (2 or 3) prior to Phase I should focus on teaching behavior generally, discussion of the materials contained in the packets, the improvement strategy, the improvement tools, plans for the next few weeks, and on making teachers comfortable in working on their own improvement.

2. Improvement Strategy: Phase I

   During Phase I the meetings should focus on learning to use the tools. By this time you should have a general understanding of the improvement strategy. Thus, you will have a framework for learning and assimilating the use of the tools. The leader should teach the group members how to (a) use the simplified Flanders interaction analysis system, (b) write behavioral objectives, (c) plan and conduct a small segment of teaching (microteaching), (d) use and interpret a student feedback instrument, (e) build a student feedback instrument, and (f) use video tape and audio equipment. All of these devices will be useful to you in analyzing your teaching.

3. Improvement Strategy: Phases II and III

During Phases II and III, the frequency of group meetings should diminish, as you work through the improvement strategy. You should practice the improvement strategy approximately three times. The first time the leader will be very active in working with you, the second time he will be less active, and the third time he will assist you only when you are experiencing some difficult problem. It is estimated that you will spend six or seven months (November-May) to work through the strategy three times.

There still may be some need to discuss and practice the use of the tools, but the general focus of the meetings that are scheduled during Phases II and III should be on the analysis of teaching behavior by the group.

OBSERVING OTHERS TEACH

WHEN YOU OBSERVE

You can learn a great deal from watching an experienced teacher work. Perhaps thinking about the following questions will help put the teaching you observe into sharper focus for you, so that you can profit from this valuable opportunity.

THE PURPOSE OF THE LESSON

Is the purpose of the lesson clear to you?
Is the objective written in observable behavioral terms?

REVIEW

In what way did the teacher find out what the students already know?

MOTIVATION

What was the motivation for the lesson?
Did it really challenge the students? In what way?

QUESTIONING

What were some examples of questions which elicited information from the students, made them think through a problem or question, or see a relationship?

PROBLEM-SOLVING APPROACH

Where in the lesson was a problem-solving approach utilized? e.g.

- A problem or question raised
- A hypothesis offered
- Facts collected to support a hypothesis or answer a question
- Facts verified
- Summaries provided
- An application of what was learned

Where was information told to students which could have been pulled from them by:

- Good questions
- Helping them to recall what they already knew or had experienced
- An experiment
- Use of the discovery method

VISUAL AIDS

Was use made of audio-visual and/or visual materials?
In what way were they effective teaching aids?

RAPPORT

What evidence was there that the teacher was really communicating with students?

SUMMARY

Was there a good summary of what students had learned at the end of the lesson?

Did the teacher attempt to evaluate with the students what they still did not understand?

LEAD-ON AND FOLLOW-UP

What did the teacher give the students to anticipate in the next lesson?
Did the teacher suggest any follow-up activities?

EVALUATION

What might have been done more effectively? How?

PROGRAM MATERIALS

Materials to assist you in this program will be packaged in sets. Each school with 1 to 6 new and inexperienced teachers will receive one complete set; schools with 7 to 12 new teachers will receive two complete sets, etc. The books and pamphlets, which may be checked out from your program leader, are called the orientation support library. The following materials are included:

Two copies of:

Teaching Behavior Improvement Program
Lilburn P. Hoehn, Ed., Michigan-Ohio Regional Education Lab (MOREL)

Dveloping Teacher Competencies
James E. Weigand Ed.

One copy of:

Conference Time for Teachers and Parents
NEA Publication

Working with Parents
NEA Publication

Motivation
Economics Press Publication

Turning Kids On and Off
Harless and Lineberry

The Role of the Teacher in the Classroom
Edmond J. Amidon and Ned A. Flanders

Preparing Instructional Objectives
Robert Mager

Problem Solving to Improve Classroom Learning
Richard Schmuck, Mark Chesler and Ronald Lippitt

Role-Playing Methods in the Classroom
Mark Chesler and Robert Fox

Diagnosing Classroom Learning Environments
Robert Fox, Margaret Barron Luszki

Self-Renewal: The Individual and the Innovative Society
John Gardner

You will receive your own copy of the following publications. These publications will be referred to as "The New Teacher Packet."

Starting the Year Right

Career Counseling

Toward Master Teaching

Schedule for Orientation Meeting

Welcoming Letter from the Superintendent of Schools

Agreement between Montgomery County Education Association and Board of Education of Montgomery County

Bulletin of Certification

Payroll Packet

Credit Union Brochure

Going Somewhere (a summary of leave policies)

Teacher Evaluation Form

Have a Question?

NOTE: Your school system has "New Teacher Orientation" television shows several times during the school year. Watch for announcements in the Superintendent's Bulletin.

Also, the filmstrip entitled "Making Your Own Tests" and many other materials are available from the Department of Educational Media and Technology.

SECTION II

MORE ABOUT THE MONTGOMERY COUNTY PUBLIC SCHOOLS

The Montgomery County Public Schools offers you assistance in several ways. It will be to your advantage to learn as much as possible about MCPS as soon as possible. In the New Teacher Packet you have received publications which contain detailed information about our school system.

Very soon, you should become familiar enough with those materials so that you will know where to look for the answers to specific questions.

The Superintendent's Bulletin is the staff newsletter, published weekly during the school year by the Department of Information. It contains professional development opportunities, feature stories on classroom activities, meeting announcements, and news about Board of Education and administrative actions. The Bulletin is distributed through school mailboxes each Monday. School Board Flashes is a brief summary of Board of Education meetings and is usually available in teacher mailboxes the second Thursday of each month.

During this orientation period, however, you may consult the following MCPS personnel if you have a question.

Your program leader or your department head

A resource teacher if you are in a secondary school

A teacher specialist if you are in an elementary school

Your principal or your assistant principal

A counselor

The three pages which follow are intended as a supplement to the publications contained in your New Teacher Packet.

INSERVICE OPPORTUNITIES

The Department of Staff Development is responsible for coordinating inservice programs for all staff members. Throughout the year, a wide variety of locally developed inservice courses are available to Montgomery County teachers. Credit earned through participation in these courses can be used for salary improvement and recertification. Specific information about all inservice programs is contained in a catalogue published each fall, spring, and summer.

As part of the inservice program for teachers, the Department of Staff Development makes available a series of courses in teaching competency. These are designed to develop identifiable skills required for teacher effectiveness that may be generalized to the teaching of all content areas and all age levels of children. The courses are applicable for all teachers who wish to learn techniques for analyzing behavior and to develop specific skills. Since your teacher behavior improvement program will train you to use various tools in the process of analyzing your teaching behavior, you may find areas in which you need more training. The teacher competency courses are addressed to three major skill areas: analysis and feedback; decision-making (setting behavioral objectives, diagnosing pupil needs, assessing pupil achievement); and interactive skills (teaching strategies, group dynamics, behavior modification). For detailed information about the teacher competency program, consult the inservice course catalogue, under the "TC" code designation.

In additon to locally developed courses, the Department of Staff Development works with a number of area universities to schedule some of their courses (off-campus) in a Montgomery County school. Information regarding them is included in the inservice catalogue. Off-campus courses are usually offered by the following institutions:

The American University
Massachusetts and Nebraska Avenues, N.W.
Washington, D.C.

George Washington University
2029 G. Street, N.W.
Washington, D.C.

The University of Maryland
University Offices
College Park, Maryland

Western Maryland College
Westminster, Maryland

For additional information regarding inservice opportunities, consult your leader or the Division of Career Programs, 279-3452.

DEPARTMENT OF EDUCATIONAL MEDIA AND TECHNOLOGY

Hours for Educational Materials Laboratory

8:30 a.m. - 9:00 p.m.	Monday thru Thursday
8:30 a.m. - 5:00 p.m.	Friday
9:00 a.m. - 4:00 p.m.	Saturday

The Educational Materials Laboratory will be closed on the following days:

July 4	Tuesday (Independence Day)
September 2	*Saturday
September 4	Monday (Labor Day)
September 18	**Monday
October 7	*Saturday
October 9	Monday (Columbus Day)
October 19	**Thursday
November 7	Tuesday (Election Day)
November 22	**Wednesday
November 23	Thursday (Thanksgiving Day)
November 24	Friday
November 25	*Saturday
December 23	*Saturday
December 25	Monday (Christmas Day)
December 26	**Tuesday
December 27	**Wednesday
December 28	**Thursday
December 30	*Saturday
January 1	Monday (New Year's Day)
February 17	*Saturday
February 19	Monday (George Washington's Birthday
April 19	**Thursday
April 20	Friday (Good Friday)
April 21	*Saturday
April 23	Monday (Easter Monday)
April 24	**Tuesday
April 25	**Wednesday
April 26	**Thursday
April 2	*Saturday
May 26	*Saturday
May 28	Monday (Memorial Day)

Phone: (Day and Evening) 279-3327 or 279-3228

* = We remain closed on a Saturday of a holiday weekend.
** = We will be closed only during our evening hours, 5:00 p.m. - 9:00 p.m.

Educational Materials Laboratory
MONTGOMERY COUNTY PUBLIC SCHOOLS

The Educational Materials Laboratory provides professional materials and a variety of services to Montgomery County Public Schools employees. The EML has an extensive collection of professional books, periodicals, curriculum guides, reference works (including indexes and abstracts), research documents (including the complete ERIC file), and numerous publications on Maryland.

The EML staff assist the user in locating and utilizing the materials in the collection. Requests may be made in writing (send to the Educational Materials Laboratory via pony) or telephone (279-3227 or 279-3228).

The EML Lends:

Textbooks and auxiliary materials to MCPS personnel enrolled in advanced degree or certification courses;

Materials used in inservice courses;

Collections of materials to individual schools for professional development;

Traveling library collection of current books on recent trends in education.

The EML Duplicates:

Articles from the 350 professional periodical holdings.
The EML supplies Education Index to every school media center to give any staff member easy access to current articles.

The EML Searches:

Ready-reference questions;

In-depth literature on specific educational topics (including the preparation of bibliographies and dissemination of materials);

ERIC data base either manually or by computer. (ERIC query prints out bibliographic information as well as abstracts of educational research.)

The EML Refers:

Requests for materials which are not available in the EML collection to other public and private libraries (Most requests can be filled through this Interlibrary Loan service.);

Users to other sources whenever indicated for complete information service.

HISTORY OF MONTGOMERY COUNTY

Montgomery County was organized by vote of Maryland's first constitutional convention on September 6, 1776. The name Montgomery was a definite break from older methods of selecting names for counties. All earlier counties in the United States took their names from some connection with the old world or officials there. When the names were chosen for the two new Maryland counties, American names were needed and two heroes then in the popular mind were written on the map. George Washington, the living hero, and Richard Montgomery, the recently martyred one, were the first Americans to be thus honored.

For 140 years little changed in Montgomery County. The population increased very slightly and agriculture remained the only industry. A county-wide school system began in 1865.

The decade 1910-20 ushered in suburban development as Montgomery County received the overflow from Washington. The areas around the District of Columbia increased in population much more than did other parts of the county, and, as the Bethesda and Silver Spring areas became more and more like cities, new governmental procedures were needed.

Until the late 1940's, Montgomery County had the county commissioner form of government that was prevalent in many places in the country. To accommodate increasing growth and citizen desire for more elected representation, a County Charter, providing for an appointed County Manager and an elected County Council, was approved by voters in 1948. At about the same time, citizens also opted to have a locally-elected, rather than a Governor-appointed Board of Education.

In 1970, county citizens voted to further modernize their local government by again revising the Charter to provide for an elected County Executive to coordinate and direct most governmental services except education. The County Council now serves a solely legislative role.

The framework for Maryland public schools is largely established by acts of the Maryland General Assembly and bylaws of the State Board of Education. The only local government control over schools is with the approval of the school budget. After the budget is adopted by the Board of Education, the County Executive has the responsibility to make recommendations about it to the County Council, and the Council must approve the budget and levy the necessary local taxes.

Montgomery County is one of 24 governmental units in Maryland--23 counties and Baltimore City. The county has an area of approximately 500 square miles. In Maryland, as well as in some other southeastern states, the school district is a single, countywide unit, as opposed to the smaller school districts common in many other part of the United States.

Montgomery County is a rapidly growing community located adjacent to the District of Columbia and many government workers reside in the county. More recently the Atomic Energy Commission and National Bureau of Standards have established their headquarters in upper Montgomery County and new research and development companies are locating here. The county is unique in that more than half of the adult population has some education beyond high school.

MODULE II

INSTRUCTION

SECTION I

LEARNING AND TEACHING

A CONCEPTUAL STRUCTURE RELATING THE PROCESSES OF LEARNING AND TEACHING[1]

Great teachers in all ages have sought some dependable generalizations about the process of learning on which to base the practice of their profession. Indeed, it is the existence of such a theoretical structure that is supposed to be the hallmark of the true professional occupation in contrast to the non-professional. Two renowned teachers who have left a record of such a structure or theoretical principles are the Greek philosopher Socrates and the educator and humanist John Comenius. Both of these men, although widely separated in time, and living before the age of scientific verification, developed theories which have much in common with some of our contemporary formulations.

This characteristic of the great teachers, unfortunately, was not in past ages and is not now shared by every member of the profession. In fact, it is doubtful if even a simple majority of teachers today base their daily classroom practice consistently upon some carefully developed rationale. Teachers' lounge conversations seem to indicate that the average teacher's approach to the improvement of practice is somewhat like that of the "jack-leg" carpenter: "cut-and-try" methods predominate. The carpenter may safely leave the theory of house construction to the professional architect; the teacher purports to be a professional and should, therefore, assume corresponding responsibility.

The years of the twentieth century have witnessed the development of a vast accretion of scientifically verified knowledge concerning the behavior of men under a variety of conditions, some of the more important conditions being those which initiate the behavior known as learning. Along with other sciences, the science of human behavior has been characterized by controversy and the development of seemingly irreconcilable "schools of thought" which has tended partially to conceal the fact that a dependable body of generalizations has been developed.

Unfortunately the vast accumulation of knowledge about learning has not, as yet, shaken down into a well-organized structure which is easily available to the classroom teacher. There is an increasing number of attempts to develop syntheses of those aspects of the various theories of learning upon which psychologists seem to be in agreement. Even the more carefully formulated of these, however, have not achieved an identification between specific teaching practices and the various elements of the theoretical structure.

Professor B. F. Skinner of Harvard University, in a Harvard Review article entitled "The Science of Learning and the Art of Teaching" describes his reaction upon visiting his own child's elementary classroom. He makes the startling assertion that at least 75% of each child's time in the average classroom is wasted insofar as it is not utilized in fostering learning. Even casual observation in the classrooms of almost any elementary or secondary school will tend to confirm this assertion. Vast numbers of children are lectured, "talked-at," and exhorted daily while the motivational factors which control and direct learning are largely ignored. Dedicated teachers exhibit infinite patience in attempting to develop understanding on the part of the less able members of their classes while the more able students sit idly by exhibiting an equally admirable capacity for patience. In short, education

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[1]This section is adapted from the Handbook for Secondary Mathematics Teachers, MCPS, pp. 53-57.

limps forward with vast effort expended on procedures and activities which are largely irrelevant to the process they are designed to foster.

Any teacher wishing to improve the effectiveness of his own instructional practices must begin with a consideration of the framework of generalizations upon which his methods are based. This article presents for the teacher's consideration just such a theoretical framework in which the more important factors which influence and control the learning which takes place in a classroom are identified and their relationships explored. The second part of the article seeks to define the teaching process and the relationship between it and the factors which control learning.

THE LEARNING PROCESS

Learning is initiated when a potential learner is confronted with a task the successful completion of which is necessary to his achievement of a goal. It is necessary to an understanding of some of the important factors which control learning to clearly distinguish between the goal of the learner and the task with which he is faced. They are rarely, if ever, identical. Learning begins when the learner makes some kind of response in relation to the task. In fact, it is best to think of the task as consisting of a particular repertoire of responses which the learner must exhibit in order to achieve his goal.

Learning proceeds as the learner makes what seem to him initially as probable correct responses. At this point a fourth element in the learning process becomes essential to its progress. This is the presence of some means by which the learner may judge the correctness of his responses. Without this element, which is frequently referred to as "feedback," learning is largely a trial-and-error process. The more clearly that feedback is present in the learning situation, the more surely is control of the learning process in the hands of the learner himself.

Having made his initial responses, and received some knowledge of their appropriateness to the situation, the learner begins to make alterations until the pattern of his responses conforms with that of the task upon which he set out. In many cases the initial exhibition of the correct pattern of responses allows the learner to achieve his goal. In most school learning, however, the learner is faced with the additional task of being able to exhibit the particular repertoire of responses quite dependably on numerous later occasions. For this reason he must practice the newly developed repertoire until he can produce it immediately when given signal to do so. Often this signal is hidden among a variety of other similar signals, making it necessary to practice the newly acquired repertoire in a number of situations.

The learning process, then, may be viewed as a dynamic set of relationships among four basic elements which have been identified as: (1) a learner, (2) a goal desired by that learner, (3) a repertoire of responses which the learner must exhibit in order to reach the goal, (4) the presence of "feedback" or some means by which the learner may determine the appropriateness of his response.

The factors which control learning, alluded to earlier, are associated with the relationships which exist between two or more of these basic elements. These factors will be identified and discussed in some detail.

THE FACTORS WHICH CONTROL LEARNING

Perhaps the most important of the factors which direct and influence learning is the complex relationship between the learner and the goal. In the literature of learning theory this is referred to as "motivation." In discussing this subject most authors identify motivation with basic human drives (hunger, sex, etc.). Although these drives are undoubtedly fundamental in all learning, the kinds of learning tasks faced by children in school are under the control of more socially derived pressures.

These may be conveniently lumped together in the statement that all humans desire self-enhancement. If you have wondered why children continue to attend school, often engaging in rather meaningless and unappetizing tasks, it can only be attributed to the fact that man is by nature gregarious and desires above all things the good opinion of his fellows.

A student will work hard at any task which promises to promote his feeling of self-enhancement and, correspondingly, abhor and avoid activities which hold little promise of promoting this important goal. A little reflection will turn up innumerable examples of the operation of this factor. For instance, slow learners are frequently characterized as being low in motivation. If a child is truly of rather low capacity for school tasks there is no reason for him to be other than indifferent to attempting their completion. They hold no promise for an increase in his self-esteem. As soon as he becomes old enough and strong enough to make his avoidance of the tasks effective, he will quite predictably seek a new and different locale in which to seek this important goal. Incidentally, in this connection, one sometimes hears a teacher justify a rather high proportion of failures among his students by saying that he is "helping them to learn to meet and adjust to the reality of failure" in the world for which school is presumably a preparation. Unfortunately for the generalization, no one learns to live with failure. If escape to a new locale in which to exercise one's endeavors is impossible, some form of psychosis is usually the result. Most school failures exercise one or the other of the two available options: they withdraw either physically or mentally from the battle in some way.

A second factor is the relationship between a learner's primary goal of self-enhancement and a particular learning task on which he is engaged. Every human is constantly engaged in activity much of which is for the purpose of maintaining or enhancing his concept of self. In order to attract the attention and motivate a learner to engage in desired learning activity, the particular learning task must appear to the learner as one which, when accomplished, will promote the accomplishment of his primary goal.

All of the behavior which is observable in a classroom, including that of the teacher, is motivated by each person's need for self-enhancement. Much of the behavior, particularly that of the students, will have no specific relevance for the learning objectives of the particular course of study. The more specifically that a teacher can define the learning objectives of the course he is teaching in terms of student behavior and identify this behavior with the students' need for self-enhancement, the more likely the incidence of undesirable student behavior will be reduced. This is the principle upon which the maintenance of good classroom order depends. No amount of exhortation or

punishment will accomplish this necessary condition for learning in the classroom with the same degree of certainty as will the application of the principle enunciated here.

A third set of factors relates the learner to the learning task. In general, easy tasks are associated with low enhancement and difficult tasks with high enhancement. However, the difficulty of a task is simply a statement of the relationship between the ability of a student and the task he is to perform. Thus, the more difficult the task, the fewer the learners who achieve their goal by accomplishing it. Some writers have separated these factors into two categories: individual variables which refer to such factors as age, mental maturity, and previous achievement and task variables which are concerned with scope, sequence, and grade placement. As has been indicated these two classifications must be considered in terms of the relationships between them rather than as separate entities.

The fourth factor to be discussed is the extent to which feedback is present in a learning situation. If it is provided in high degree in each learning situation, the learner gains control over his own progress in learning. This control has two important effects. First, the learning task is accomplished more rapidly, thoroughly, and with less waste motion. Secondly, the learner gains an added increment of self-enhancement due to the fact that control over his own learning is apparently very enjoyable. This latter benefit has been variously identified as the "Law of Effect" by E. L. Thorndike and as "reinforcement" by more recent members of the connectionist school of psychology. Many learning theorists assert that it is the most important single factor in the learning process. In the article by B. F. Skinner, referred to earlier, the author attributes general inefficiency of the school situations he observed as being due primarily to the failure on the part of the teacher to provide "feedback."

Let us pause for a short interval and review what has been discussed thus far concerning the learning process. Four basic elements of the situation which initiates learning have been identified. Three of these, the learner, his goal, and a learning task, are absolutely essential. The fourth element, feedback, may not be absolutely essential but certainly highly desirable. The various relationships among these four elements, identified as factors which direct and control the learning process, have also been discussed. We may now begin to add some significant detail to the essentially simple picture of learning which has been developed up to this point.

The discussion so far has classified the various learning tasks as response repertoires. The learning process has been defined in terms of establishing a connection between a signal, or stimulus, and an appropriate response repertoire. It is obvious that this is essentially the view held by the school of psychological thought known as "Connectionist" or "Behaviorist." Psychologists of this school, sometimes referred to as "rat-runners" because much of their work on learning has been done with live animals, prefer to work only with the measurable results of that interior process. This point of view has a great deal to recommend it, especially for the classroom teacher. No matter how lofty the teacher's objectives in terms of the development of complex cognitive structures by his students, he must translate these structures into some kind of

behavioral pattern before he can transmit them to his students. This point is so important to the planning of effective learning experiences that it must be reiterated in a somewhat more didactic form, thus: Learning must be thought of as behavioral acts or, if considered to be the development of cognitive structures, these must be inferred from such behavioral acts.

Let us return now to the description of the learning process and explore an important relationship which must be more thoroughly developed. Recall that the element of feedback was asserted to be of importance in that it provides the learner with the means of control over the learning process. This mastery over the process of learning, in turn, leads to an added increment of self-enhancement. We are thus brought to a consideration of an important question: What are the means by which the learner exercises this control?

The answer to this question has absorbed the efforts of the proponents of the second important school of learning theorists: the "Gestalt" psychologists. The three original members of this group, Max Wertheimer, Wolfgang Kohler, and Kurt Koffka, laid the foundation of their important contributions to the study of learning in Germany during the very early years of this century. They were deeply critical of the view of the learner as presented by E. L. Thorndike which may be thought of as a kind of automatic switchboard in which connections between stimuli and behavioral patterns are established under the control of three basic "laws." The Gestaltists, by contrast, conceived of the learner as an active and controlling participant. They believed that the learner first clarifies and identifies the significant aspects of the signal or stimulus. This act they termed "perception." Secondly, through the use of several kinds of cognitive structures, the learner is thought to perform the mental counterpart of the tentative behavioral repertoire before performing it. The actual behavioral act which follows is an attempt to verify the correctness of the mental formulation.

This view of learning identifies the products of the learning process as cognitive structures which the learner may continue to use as guides to further conduct rather than as behavioral acts. These cognitive structures are called "concepts" and may be thought of as generalizations which allow the learner to apply the response repertoire developed in one specific situation to a variety of other similar situations. In fact, we do not usually consider that learning has taken place until the learner has exhibited the ability to select the appropriate response repertoire from the many that he has at his command.

Concepts are exceedingly important for the efficient control of the learning process by the learner, but it is necessary to reiterate that their existence can be inferred only from the learner's behavioral acts. Furthermore, the learner may achieve his goal only through the exhibition of appropriate response patterns in the presence of given signals. The transmission of cognitive structures is a worthy and necessary teacher objective but again it must be repeated that learning must be equated with behavior.

We are now ready for a third, and final, return to a consideration of the learning process during which it will be analyzed into three phases. The purpose of this review is to indicate the manner in which various factors operate in the process.

During the initial phase of the learning process the learner first becomes aware of the connection between his persistent goal of self-enhancement and the learning task. We might describe this more simply by saying that his interest is aroused. From this point the learning process is actively in operation with the learner seeking to clarify the elements of the signal and its relation to the task. The emphasis during this phase is on the activity of the learner: he observes, explores, asks questions, makes diagrams and sketches, discusses. The phase does not end until he achieves a tentative clarification of the nature of the learning task.

In the second phase the learner formulates a cognitive structure of generalizations, usually assembled from those he has already developed. He then uses this as a device to guide him in his initial response to the signal. It is at this point that feedback enters our description. Knowledge of results allows him to reformulate his cognitive structure, if this is necessary, and to make another attempt. This interaction continues until the learner has produced the correct response pattern. At this point the second phase comes to an end. Note the primacy of cognitive structure over behavioral response and the necessity for the presence of feedback if that primacy is to be maintained. In its absence the learner can only resort to trial-and-error until he stumbles on the correct response. Cognitive structures are the direct outgrowth of activity on the part of the learner. There is evidence that lack of feedback tends to inhibit the development of concepts.

During the third phase, the learner established the new response pattern as a permanent part of his total repertoire. He tests it out under conditions which are variations of the original conditions. The cognitive structures he has developed to guide his conduct are incorporated within the organizational pattern of others related in some way to the new one. Most often the new concept is the result of a reorganization of previously developed conceptual elements rather than a new entity. The third phase comes to an end when the learner can produce his new response quite dependably whenever it is appropriate.

The conceptual structure of the learning process which has been presented is simple in outline, but may be almost infinitely elaborated. It identifies the more important elements and factors which enter into the process, and thus may be used as a guide in the teaching process. The second part of this article will be devoted to a consideration of the process of teaching and its relation to the structure which has been developed.

THE TEACHING PROCESS[1]

The teaching process may be very simply defined as the exercise of control over the more important factors which control learning and which are susceptible to control. While the definition is simple, carrying out the process is most complex since the various factors which influence learning do not operate uniformly with all students.

In addition to identifying the factors which control learning, the teacher must select appropriate behavioral patterns of his own in order to initiate and guide learning activities. For this purpose he needs some kind of picture or model of the teaching process. Figure I has been designed to indicate the various activities which make up the teaching process and to exhibit their relationship, thus providing the necessary model. Figure I on the following page identifies the four categories of teaching activities as: (1) gathering information; (2) planning learning activities; (3) guiding learning activities; (4) evaluation. The arrangement is intended to show that these activities are to some extent both sequential and interdependent. This design will provide the structure for the discussion which follows.

GATHERING INFORMATION

Before a teacher can initiate any kind of classroom learning activities, he must answer two questions: "What is to be learned?" and "Who is to learn it?" In answer to the first of these questions, a teacher has several sources of information. A course of study bulletin, defining the learning objectives identified as important and essential by the teacher's employer (the community for which he works) is the primary source. The textbooks provided by the school system provide the next best source.

In order to make real use of the learning objectives the teacher must perceive them in two ways. First, as an interrelated set of concepts and generalizations. Second, as a set of behavioral descriptions. The first method of stating the objectives is essential so that the sequence of presentation and the orderly relationships among them may be perceived and maintained. The objectives must also be stated in behavioral terms so that learning activities may be planned and their effectiveness evaluated. One or the other methods of stating the objectives alone is not sufficient if a teacher is to do effective planning.

Considerable money is spent by this school system in maintaining a general testing program. From the results of this program a wealth of data on the learning expectancies of children may be derived. If a teacher is to answer the second question adequately (i.e., "Who is to learn it?"), he must conscientiously collect these data and submit them to statistical analysis before he begins to plan the learning activities for a particular group of students. In addition to the results of the general testing program, such data as the marks already achieved should be used to determine to what extent mental maturity and standardized achievement scores indicate that students have already attained the more important learning objectives in the course he is planning. Without this information, neither planning nor evaluation can be very effective.

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[1]This section is adapted from the Handbook for Secondary Mathematics Teachers, MCPS, pp. 56-62.

FIGURE I

THE TEACHING PROCESS

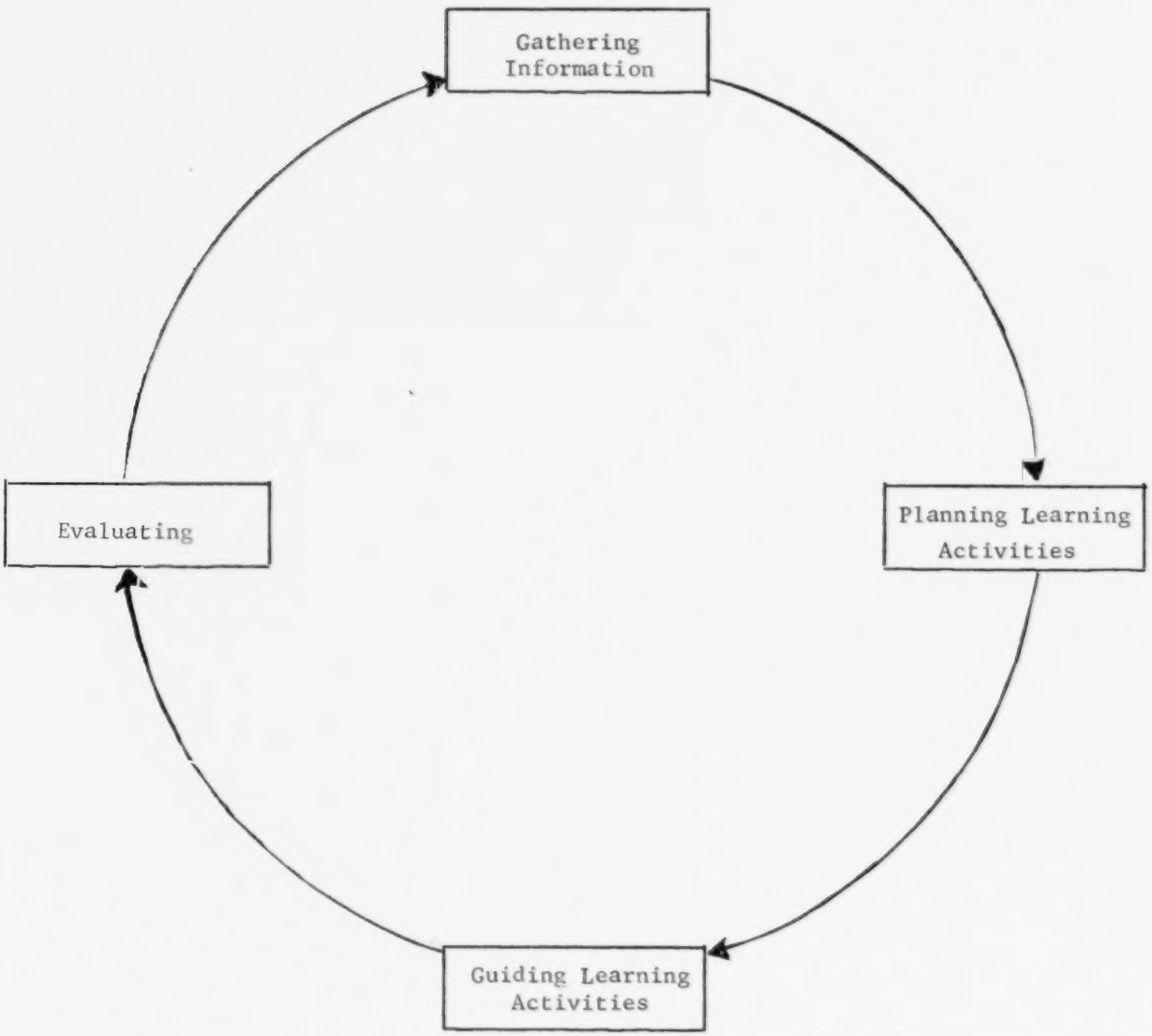
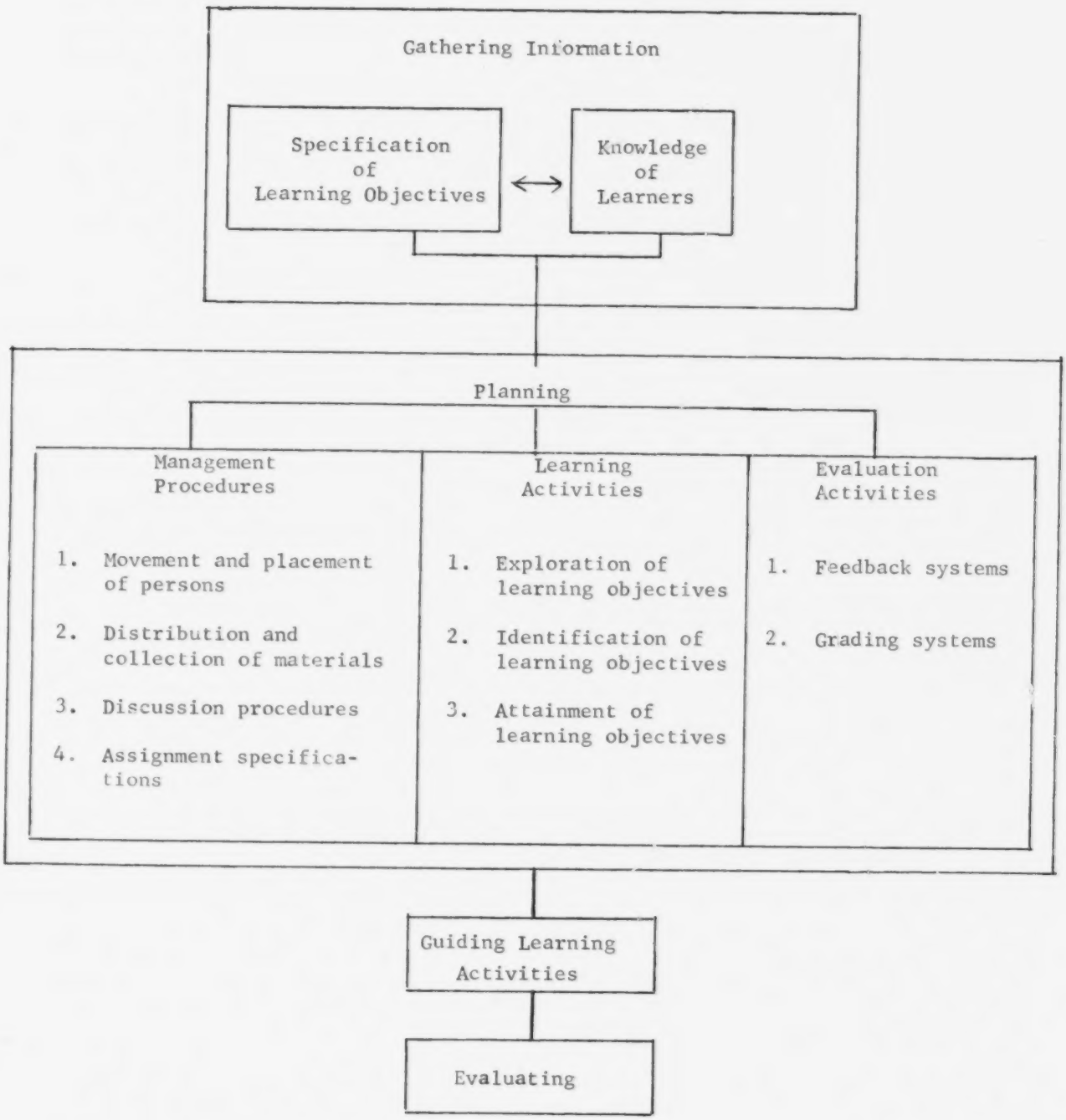


FIGURE II

THE TEACHING PROCESS



PLANNING

Figure II on the preceding page is designed to show the relationship between the various factors that enter into the activity of planning. You will notice that there is a double arrow between the two classes of information to be gathered. In the previous discussions, the two classes were discussed as discrete entities. The first step in planning learning activities is to use the data concerning the nature of students to modify the specified learning objectives both as to scope and as to complexity.

The next group of activities in planning are concerned with the specific day-by-day, in some cases even minute-by-minute, activities of the classroom. They are, as shown in Figure II, subdivided into three categories: management procedures, learning activities, and evaluation activities. This subdivision is to some extent artificial as all three kinds of activities are closely interrelated.

MANAGEMENT PROCEDURES

Management procedures deal with the routine aspects of classroom operation. They fall into four categories, as follows:

1. Movement and placement of persons in and around the classroom
2. Distribution and collection of supplies and equipment
3. Discussion procedures
4. Assignment specifications

Planning in each of these categories should be specific and detailed, but planning alone is not sufficient. The teacher must be patient and persistent in seeing that the plans are carried out and must be consistent in this effort.

Beginning teachers frequently fail to realize the degree of specification required in planning classroom routines, thereby creating the occasion for some undesirable student behavior. If students' energies are to be directed toward the attainment of the learning objectives, most of the routine decisions must be made in advance. If, before a student can begin work on an assignment, he must spend time and energy on routine decisions, less time and energy will be available for the substantive aspects of the assignment. Where careful and complete specification by the teacher is not made, frustration on the part of students is often observable in the form of restlessness and inattention. A teacher cannot overplan the management procedures of a classroom.

LEARNING ACTIVITIES

The reader will recall that the learning process was described as progressing through three phases. Although no names were given to these phases, for the purposes of identification they should be given some kind of descriptive names, such as (a) exploration, (b) identification of learning objectives by learner, (c) active attainment of learning objectives.

Planning of learning activities should be done with these phases in mind. The most difficult of these is the first since our traditional orientation is to begin immediately with the second phase. Most textbooks begin each topic with

an explanation (the identification of learning objectives) followed by a set of exercises (active attainment of learning objectives). The necessity for exploratory activity is frequently overlooked.

The most effective learning activities provide for free exploration on the part of students leading to a clear appreciation of the learning objectives by them. The third phase may then proceed most expeditiously to a successful conclusion.

When stress is placed on exploratory activity on the part of the learner, his active participation in the learning process is made explicit. It is impossible to plan an exploratory activity in which the students remain passive spectators. If a teacher really believes that learning does require the active participation of each student, then the learning activities he plans must follow to some extent the pattern identified here.

The second phase of each learning activity should be characterized by the provision of feedback or knowledge of results. Often it is the teacher himself, as an authority, who provides this. However, this generally results in over-dependence on the teacher rather than in self-reliance by the student. The most effective feedback devices are a set of concepts developed by the student. Initially this is a difficult mode to develop, since many students tend to rely heavily on a teacher.

The best example of such a provision, or the lack of it, comes from experience in the teaching of geometry. Traditionally, the synthesis of proofs has been taught through the exhibition of numerous samples. Some students of rather high capacity have had the ability to intuitively develop a concept of the structure of proof. Many students, however, have not had this capacity, and have found it necessary to depend on the memorization of proofs to get them successfully through the course. Probably no other high school course has developed so clear a dichotomy of feelings as is displayed by adults who have experienced the course. In most cases those who admit to a great distaste for geometry admit that their clearest recollection is of complete helplessness when faced with the necessity for synthesizing a proof.

If, however, the nature and structure of proof is contained in the learning objectives of the course and the behavior required to synthesize and analyze proofs is defined and developed, students may no longer feel helpless when faced with the task, since they will be able to assess the quality of their own efforts without the necessity of calling on the authority of the teacher.

In planning the third phase of a learning experience the teacher should provide for considerable practice of the learning objectives in the presence of other stimuli. In contrast to the first phase, this one should be characterized by more controlled conditions. The learner should continue to receive knowledge of results as early as possible after he has made a response, and the response should conform closely to the model. It is during this phase that testing and the determination of grades become important features.

EVALUATION ACTIVITIES

Although it is perhaps incorrect to characterize any one class of teaching activities as having greater importance than any of the others, the evaluation activities are the most potent in providing the means for teacher control over the learning process. Motivational factors are central to the learning process, and it is through the evaluation of progress in attaining stated learning objectives that motivation is provided in classroom situations.

The most neglected aspect of evaluation activities is the provision of continuous feedback to students concerning their progress. Feedback systems are difficult to set up and an arduous task to maintain, but this should not prevent their use. The reason for this difficulty is that students should have the information within seconds after exhibiting some kind of behavior. If the teacher insists on being the repository for this information it is impossible to provide it this rapidly. Therefore, if immediate student access is to be provided, some comprehensive management procedures must be defined. Since it is difficult to list all of the possible modes of response students may be required to make, there will be no listing of possibilities here. It will be sufficient to state the principle once more: Immediate feedback is essential to effective learning and each teacher should make a comprehensive plan for providing it.

Probably the most time-consuming aspect of teaching is the construction, administration, and correcting of tests, particularly the latter activity. As with the development of other kinds of instructional materials, the construction of valid and reliable tests is a highly technical task, requiring more training than is possessed by most teachers. For this reason most teachers share the experience of administering a test at the end of a period of instruction, and discovering that their students appear to know very little about the material just covered. The fault seldom lies with the students or with the quality of the instruction, but rather with the poor construction of the test.

Whenever possible a teacher should not resort to test construction but, rather, use tests constructed by persons who have had more experience in making them and who had more time to construct a good one. At the present time nearly every textbook publisher provides a set of tests with his textbook. A teacher should use these in preference to making tests himself, gather results as to expectancies on these tests from his own classes and those of colleagues, and use the results to improve other aspects of his evaluation activities.

Much teacher time is spent in checking papers. While some of this activity is essential, it is possible to locate or to construct tests which will be valid, and much more highly reliable, measures of the attainment of learning objectives and at the same time can be corrected in a very short time. Devices are now available on the market which can be used to reduce to virtually nothing the time a teacher must spend in marking papers, thus giving him increased time to spend in a much more comprehensive and sophisticated analysis of the results of the test. After all, it is the results in which a teacher and his students are interested.

There is insufficient space within the compass of this short article to discuss the determination of grades with any degree of depth. Needless to say, grades are exceedingly important and their determination should be undertaken with extreme care. Very briefly the following criteria should be applied to any system of grades determination:

1. Grades should be determined according to a carefully developed system.

2. Every element which goes into the determination of a grade should be identified and its weight specified.

3. Subjective elements in grade determination should be reduced to a minimum or eliminated if possible. Where it is not possible, the application of subjective criteria should be specified and consistently applied to each student.

4. Students should have complete access to the information upon which grades will be determined.

5. Students should participate in the determination of grades. If possible they should actually perform the computation themselves.

6. Everyone who has any reasonable interest in the system of grade determination should be informed of it. This includes the student, his parents, the principal of the school, and the student's guidance counselor.

Much of the misunderstanding between a student's parents and the school is due to the lack of systematic and impartial determination of grades on the part of teachers and the lack of understanding as to the meaning and purpose of grades on the part of the parents. If a teacher's grading system meets the criteria stated above there is very little likelihood of misunderstanding and friction. The initiative in developing and maintaining an impartial, objective system of grading is the responsibility of the teacher.

An evaluation plan should also include a determined attempt to assess the effectiveness of instruction. For this purpose a teacher needs two kinds of data: (a) a determination of the achievement expectancy of each member of his class; (b) some kind of expectancy norms for the most important tests the teacher is using. By regularly employing this data as it becomes available, the teacher can determine to what extent his students' achievement of the learning objectives is what they are reasonably capable of.

GUIDING LEARNING ACTIVITIES

It is not within the scope of this article to present a complete rationale for the minute-by-minute guidance of learning activities. Having planned the various activities and the management procedures which support them, the regular task of the teacher is to interpret them to his students in such a way that the students accept them and participate in them because the activities are effective.

The only sure guide to the acceptance of a learning activity by a group of students lies in their behavior. To the experienced teacher, student behavior provides the immediate feedback which tells him to what extent he is immediately successful. Bored, restless, uninvolved, and resentful students indicate such feelings very directly. Actively involved, interested students will likewise communicate these feelings through their behavior. Anyone with sufficient sensitivity to the meaning conveyed by nuances of behavior should be able to adapt to learning activities.

The only statement of principle regarding the guidance of learning activities to be included is as follows: To be successful a learning activity must be understood and accepted wholeheartedly by the students engaging in it. Students should be fully informed as to why they are engaging in a particular activity and as soon as possible to what extent that participation was successful.

Although exceedingly complex, the learning process is not mysterious. The major outlines of the component elements in the process have been discovered during the past fifty to seventy-five years. The rationale for instruction presented here is based upon an oversimplified description of the learning process which employs those basic elements in the learning process accepted by all schools of learning theory. Any teacher who conscientiously follows this, or any rationale built on the same principles of learning, will be effective in the practice of his profession.

SECTION II

INDIVIDUALIZATION OF INSTRUCTION

MAKING PROVISION FOR THE INDIVIDUAL NEEDS OF STUDENTS[1]

A common administrative practice which helps teachers meet the individual needs of their students is the grouping of students within grades or classes according to some predetermined criteria.

Many of the secondary school classes are organized according to student ability as measured by achievement tests. Most elementary classes are grouped by ability for at least part of each day.

CLASSROOM ACTIVITIES

Teachers know that no amount of selectivity or differentiation among students in organizing sections will eliminate differences and provide a so-called homogenous group. From a teacher's point of view, the preferred group most likely would be the top level academic section because instruction is certainly easier to provide for able learners. However, the range of differences in ability, interest, habits, and purpose probably is greater among such a group of students than with any other section. The ranges of ability are least among an average group of students.

The primary factor in providing for individual differences of any group of students is knowledge of students themselves on the part of the teacher. The more a teacher understands the background, characteristics, habits, and interests of each student the better a teacher can direct all students through appropriate learning activities. Since knowledge of the individual student is essential to planning specific learning activities, any discussion of individual differences must, of necessity, be general in nature. Some of the techniques which have proven fruitful in providing differentiated instruction within a class are outlined below.

It is common practice among elementary teachers to have groups within the class and to teach the groups at an appropriate level for their development. This practice is used to some extent in the secondary school, particularly at the junior high level. The advantages of this practice are obvious in that it provides instruction for students at the level at which they are capable of functioning and also permits the use of different teaching techniques in terms of student needs. The limitations of this technique are due to the more rigid time schedule of classes in the secondary school. The teacher may find it difficult to devote the time she feels necessary to each group especially if there are more than three groups.

A modification of the grouping can be done by introducing new material to the whole class then breaking the class down into groups for special instruction in terms of the indicated difficulties. Sometimes this can be done simply by having the more able students work on an assignment while the teacher works at the blackboard with a group who need further amplification of the concept or skill.

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[1]Materials in this section have been adapted from the Handbook for Secondary Mathematics Teachers, MCPS, pp. 65-67; and from papers submitted by members of the Area 4 reading staff.

Another technique which can be employed is using the more capable students to work individually with the slower students. This method probably is used to best advantage when the learning situation involves a skill or technique. However, students can sometimes explain a concept to another student in such a way that new insights are gained by both students. This practice helps the student who is serving in the capacity of teacher to reinforce his own learning and to sometimes discover his inadequacies. It does, however, keep this student from working on more complex assignments which would extend his knowledge and for this reason should be used sparingly.

Some teachers make a practice of having special after-school sessions on certain days for those students who want and need extra help. There are some disadvantages to this practice. Often the students who need the extra help most are the students who never show up for these sessions. They have to catch the bus, or they have to make up a test for another teacher, or are required by parents to come home for some other duty. Sometimes students who are doing reasonably well and whose prime reason for being there is to impress the teacher with their interest will come to such sessions and monopolize the teacher's time. If teachers are going to have a special after-school session they should be specific in letting students know the purpose for such sessions. Teachers should indicate to individual students their need to attend these sessions and should also provide an opportunity for students who wish to volunteer to attend them to do so. Sometimes a student needs encouragement to take advantage of a special help session. This encouragement might consist of a note on a paper returned to him indicating his need for help and suggesting that he see the teacher to arrange for it.

Carefully planned assignments which are differentiated for student needs can be used most effectively in providing for individual differences. Able learners ought not be required to work relatively easy exercises to the same extent that average students might need to work them. At the same time every assignment should have some problem that requires effort on the part of the most capable student. Students need to strive to feel a sense of accomplishment. By the same token every assignment should contain exercises so the least capable student can work some of them. Answers or some kind of a guide ought to accompany the assignment so that the student knows whether he is doing the work correctly. A good assignment would include some review work for those students needing reinforcement or maintenance of skill.

Some teachers have found that assignments based on units of work rather than daily assignments have some particular advantages. Such assignments give the student more leeway in planning work. They make it possible for students having difficulties to work on assignments, discover deficiencies, come back to class and obtain necessary instruction to complete the assignment, and results in all students doing part of the work.

If long-term assignments are undertaken at the junior high level, it is suggested that a teacher make frequent informal checks on how students are progressing. Immature students need help in planning work over an extended period of time. Perhaps it would be better to give occasional long-term assignments to young students to help them to adjust to the responsibility of planning their time. Long-term assignments are most effective with mature, capable students, but all students can benefit from the experience.

Programmed material, a relatively new instructional tool, probably lends itself to individualized instruction with minimum demands upon the teacher better than any other technique. Experiments are still under way to determine the best uses of programmed instruction.

Teachers are advised to become familiar with the different programs which are available and to consider their use particularly for situations where the student has missed considerable work because of absence from school, or the student is lacking the necessary background to achieve at his grade level.

Careful assessment of each lesson (on the part of the teacher) as to techniques and activities employed in relation to student reaction will undoubtedly result in the knowledge of how best to provide for individual needs of the students.

ENRICHMENT ACTIVITIES

A teacher may find that some students are especially interested in the subject matter and anxious to pursue certain topics on their own. They should be encouraged in this endeavor. The teacher can help students by suggesting the sequence of study best suited to the students' maturity and sources of material. If at all possible, such students should be guided to undertake work related to, or that will contribute to current classroom activities. Even if a student's special work has no bearing on the course, a wise teacher will provide an opportunity for the budding genius to have his day in the sun.

If special assignments are undertaken by individuals or groups of students, there should be a clear understanding between the teacher and the students involved regarding how or if such special work will be evaluated in terms of the student's grade.

NOTE: Consult your program leader and/or resource teacher or teacher specialist for enrichment activities which might be beneficial to your class.

STYLES OF LEARNING

In any classroom, probably no two pupils learn the same things in the same way at the same pace. Some learn most easily through reading; others through listening; still others through doing things physically. Some prefer to work under the pressure of deadlines and tests; others like a more leisurely pace. Some learn by being challenged by people ahead of them; others learn best by helping people behind them.

Everyone has a distinct style of learning, as individual as his personality. These styles may be categorized principally as visual (reading), aural (listening), or physical (doing things), although any one person may use more than one. Some persons, for example, find it much easier to pace the floor while reading an assignment than to sit perfectly still at a desk. Their style may be more physical.

For a long time now, teachers and guidance workers have tended to ignore the concept of different styles of learning. They have, instead, focused their attention on emotion, motivation, and personality as causes for learning or failure to learn. When confronted with an intellectually able student whose learning fails to measure up to his learning potential, they have tended to attribute this failure to an emotional block or personality conflict. Little attention has been given to how a pupil's learning could be improved simply by concentrating on the way he works and learns.

A careful analysis of the way a child works and learns is of greater value than speculation about his emotional state. He may indeed feel sibling rivalry or certain irrational fears, but these conditions may not affect his learning as much as the methods his teacher uses to teach him. The important consideration, in one opinion, is whether the methods of learning imposed by the teacher utilize the strengths in a child's style of learning.

Most teachers, unfortunately, have been trained to look upon learning in a general way. Their preparation, which may include no more than a few survey courses in educational psychology, neglects the idiosyncracies involved in learning.

For example, most teachers probably assume that the best way to study a reading assignment is first to survey the chapter. This is what they have been taught from the early grades through college because it is the way most people learn best. Some students, however, become so anxious and disturbed at being told to take an overall view of a chapter that they cannot function. Their style calls for reading a chapter slowly, section by section. Requiring such a person to skim the entire chapter first makes no more sense than telling a person who can't resist peeking at the last chapter of a mystery that he must read the book straight through.

The general recommendation that one must have a quiet place to study may be equally lacking in validity. Strangely enough, some people do their best studying in a noisy place, or with certain sounds such as music or even traffic in the background. The textbooks do not talk about this because, for the "average" person, peace and quiet are more conducive to learning.

Style is also very much involved in taking tests. For some individuals, the prospect of a test operates as a prod that stimulates them to absorb a great deal of material they need to master. On the other hand, being faced with a test causes many people to become disorganized, overanxious, and unable to work. After a test, some pupils are so upset over their mistakes that they develop an emotional block about remembering the correct answers to the questions on which they erred. Consequently, they repeatedly miss the same questions. For others, finding out that they gave wrong answers aids recall and challenges them to master the problems.

Each classroom is likely to include students whose styles of learning vary widely. Although the teacher cannot cater completely to each student's particular style, he can attempt to utilize the strengths and reduce or modify the weaknesses of those in his classes.

An individual's basic style of learning is probably laid down early in life and is not subject to fundamental change. For example, a pupil who likes to learn by listening and speaking (aural style) is unlikely to change completely and become an outstanding reader. Such a pupil may learn to read and write fluently, but his best, most permanent learning is likely to continue to come from listening and speaking.

Since the student is the person most vitally concerned, the first step is to help him discover his particular style of learning and recognize its strengths and limitations.

In identifying a style, it is extremely important to ascertain the person's work habits as precisely as possible. If a youngster is in despair because he cannot get any work done during the study time allowed in class the teacher should question him carefully about his routine. What does he do first when study time is announced? How does he try to make himself concentrate? What disturbs him?

Perhaps his answer will be: "At first I'm glad we have time to do the work at school so that I will be free when school is out. I open my book to the assignment, but it's noisy because kids are asking the teacher questions of flipping through their books or whispering. I go sharpen my pencils while I'm waiting for it to get quiet. "By the time things settle down, I know I don't have too much time left and that I have to hurry or I won't get done. I try to read fast, but the words all run together and mean nothing. Some of the smart kids are already through, and I have't even started. I usually give up and decide I may as well do it all at home like all the other dumb bunnies do."

A number of factors may be involved in this boy's problem. Possibly he is a physical learner (sharpening the pencils may show need for movement) who has difficulty with visual learning. Apparently he warms up slowly, for when he tries to hurry, he finds he can do nothing. The physical learner generally gets his muscles into his work, and this takes time. Such a student must realize that attempts to rush himself are of no avail, but that this does not make him a "dumb bunny." Once he gets past his warm-up point and begins to concentrate on his work, he may work very well for long periods of time.

If this student is made aware of the way he learns, he can schedule any work requiring concentration for longer periods of time, and use short periods for something less demanding, perhaps a review of the day's school work. Probably his warm-up period will gradually decrease as he becomes less anxious about failing to keep pace with his fellow students.

A pupil can take advantage of the strengths inherent in his style of learning to balance his weaknesses. For example, consider the pupil who has to learn to read, although his learning style is physical rather than visual.

In order to teach reading to a younster for whom reading is stylistically uncongenial, the teacher may want to try role-playing, which is related to a physical style of learning. The pupil is more likely to be able to read about something that he has just role-played. By teaching reading in this way, the teacher is not helping the pupil develop a reading style, he is helping the pupil to develop a reading skill. In a sense, the teacher is overcoming the pupil's difficulty with reading by making use of the pupil's strength, whether it be physical, aural, or whatever.

The challenge to every teacher is first how to identify the learning strengths in his pupils and then how to utilize them to overcome weaknesses. This is the central problem in the strategy of style.

Following is a sample questionnaire to be answered by the student. The information gained by the teacher can help to identify the learning strengths and weaknesses of the students. The teacher can then plan to use teaching methods that accommodate these learning styles.

SAMPLE QUESTIONNAIRE ON LEARNING STYLES

1. Do you follow directions best when

   _____ a. You hear the directions

   _____ b. You read the directions

   _____ c. You read and hear the directions

2. When you listen to a teacher, do you take in information most easily if

   _____ a. You listen and take notes

   _____ b. You listen

   _____ c. You listen and follow the teacher's printed outline

3. When you explain how to do something, do you

   _____ a. Tell how to do it

   _____ b. Demonstrate how to do it

   _____ c. Write or illustrate how to do it

4. When you need to convey information quickly to a person or group, do you

   _____ a. Put it in written form

   _____ b. Tell it to them

   _____ c. Tell it and write it simultaneously

5. In giving an oral report do you

   _____ a. Write it and read it

   _____ b. Outline it and speak from the outline

   _____ c. Speak without reference to notes

6. When someone shows you an object which you have never seen before, do you

   _____ a. Handle it in order to understand it

   _____ b. Look at it

   _____ c. Listen to his explanation

The following article, "What the Teacher Can Do," is an example of how the teacher can adapt a student's style of learning to the method of teaching in reading.

WHAT THE TEACHER CAN DO

The classroom teacher is the central figure in the team of people who carry out the reading program in Montgomery County Public Schools. No matter what curriculum guides a school system has - or how many kinds of instructional materials are available - or how many specialists - the responsibility for knowing the strengths and needs of each youngster, and finding the means for helping him to develop new strengths, rests with the classroom teacher.

Assessment of individual needs should begin early. A large part of the early years of learning should be devoted to diagnosing individual strengths and weaknesses and prescribing specific instructional programs based upon the strengths.

After identifying an individual's needs, the teacher is able to establish appropriate and effective instructional groups. However, at the same time, meaningful activities must be provided for those students working independently. The teacher must view grouping as a flexible and purposeful means of bringing youngsters together for instruction.

Once the teacher has organized the groups, instructional materials, commensurate with the individual's needs, at a given period in time, are selected. All these tasks are not performed separately, but are interrelated and interdependent. They are complex and continuous. Accomplishing all of these tasks is an impossibility. However, working constantly to achieve them will result in a tailor-made reading program.

The classroom teacher does not work without assistance. He is surrounded by a support system of people and materials. For example, when a classroom teacher is confronted with a child who needs additional diagnosing and remediation, the reading teacher, the reading specialist, diagnostician, pupil personnel worker, and psychologist can give this assistance. Also, many teachers have aides and community or parent volunteers who work with them in preparing materials and in tutoring individual students or small groups. Assistance with any aspect of the classroom teacher's reading program is available from the area reading staff.

Additionally, the many workshops and inservice activities conducted by various members of the teacher's support system under the direction of the area reading staff provide another means of presenting new guidelines and guidance to teachers.

The following suggestions are not all inclusive but are representative of what a classroom teacher can do to aid a child with learning disabilities. These approaches train perceptual skills as well as instruct in a specific subject area.

To assist visual-motor function, the teacher should:

1. Emphasize the differences in whatever visual information is provided, In order to appreciate the construction of the symbols ask the student to "trace" over the letters and words, "draw" them in the air first with his eyes open, then closes. Also spell the words using three-dimensional letters.

2. Encourage the child to use his finger as a pointer when reading. Allow him to use a "liner" or to use a "mask" which has been slotted so that one line of print is exposed at a given time.

3. Explain what you are doing while you do it, so the child may hear and see at the same time. Then have him repeat the directions.

4. Encourage oral responses. If possible, evaluate the child's progress orally. Reduce the amount of written assignment.

5. Illustrate spatial relationships in teaching math concepts by using manipulative devices (blocks, rods, coins, etc.).

6. Arrange the lesson in sequentially ordered steps and, if possible, present one step at a time.

7. Avoid assignments where the pages are "cluttered," but prepare simplified formats and clearly defined work spaces for each task.

8. Let a child having difficulties with pencil control try a felt-tip pen or other writing instrument of a different shape and size.

9. Use color cues in introducing new letters, sounds, or words.

10. Try to seat the child in a quiet area away from distractions and stimulation.

To assist in auditory-motor function, the teacher should:

1. Initially provide training in basic auditory discrimination (bells, sirens, whistles, etc.). Then introduce letter-sound discrimination (e.g., begin consonants, vowels) extend these into a beginning reading program that teaches basic phonic decoding.

2. Emphasize the phonemes of the language. Ask the child to "say" the sound, "listen" to it, replicate the sound via another word, and observe the way the word is articulated.

3. Use visual mediators as diacritical marks and underline letters to aid the child in relating a specific phoneme to a visual stimulus.

4. Involve the child in rhyming games and in activities which stress auditory discrimination, sequence, and memory.

5. Give the child concise, one-concept directions, commands, and questions.

6. Speak distinctly and alter verbal presentations: whisper; raise or lower pitch, tone, speaking rate, etc.

7. Encourage the child to whisper what he is writing while he is writing.

8. In response to a question, have the child repeat the question as part of his answer. Assist him in organizing his verbal responses.

9. Review constantly. Assume nothing until the child demonstrates automatic responses.

For the upper elementary and secondary level student, the teacher should:

1. Use a wide variety of instructional materials so each student can read at his instructional or independent levels regardless of grade placement.

2. Encourage students to read difficult texts with someone.

3. Have students dictate stories or answers to assignments to another individual to record. Then have the student read orally his dictated story.

4. Provide oral tests instead of or as a supplement to a written examination.

5. Have able readers give oral synopsis of silent reading lessons so that nonreading students can listen to information. Then the poor reader could dictate what he has learned to another individual to record.

6. Design simple, well-defined study guides. Permit the student to choose questions he would like to explore.

7. Use diagrams, charts, maps, pictures when introducing new concepts.

8. Allow sufficient class time for reading and testing assignment.

9. Have good readers prepare a tape for others to listen to at a later time.

10. Assist the student with study skills and habits. Short assignments checked frequently are more easily handled than long-range projects.

11. Assign differentiated homework and classwork.

12. Review basic skills frequently.

RELATED READINGS

The following books, related to individualized instruction, are available for checkout from your orientation support library

Teaching Behavior Improvement Program
Lilburn P. Hoehn, Ed., Michigan-Ohio Regional Education Lab (MOREL)

Developing Teacher Competencies
James E. Weigand, Ed.

Motivation
Economics Press publication

Turning Kids On and Off
Harless and Lineberry

The Role of the Teacher in the Classroom
Edmond J. Amidon and Ned A. Flanders

Preparing Instructional Objectives
Robert Mager

Problem Solving to Improve Classroom Learning
Richard Schmuck, Mark Chesler and Ronald Lippitt

Role-Playing Methods in the Classroom
Mark Chesler and Robert Fox

Diagnosing Classroom Learning Environments
Robert Fox, Margaret Barron Luszki

Self-Renewal: The Individual and the Innovative Society
John Gardner

The following supplemental readings are not available in your support library.

Cutts, Norma E. and Moseley, Nicholas. Teaching the Bright and Gifted. Englewood Cliffs: Prentice-Hall, Inc., 1957.

DeHaan, Robert F. and Havighurst, Robert J. Educating the Gifted. Chicago: University of Chicago Press, 1961.

Johnson, G. Orville. Education for the Slow Learners. Englewood Cliffs: Prentice-Hall, Inc., 1963.

National Council of Teachers of Mathematics. The Learning of Mathematics, Its Theory and Practice, Twenty-first yearbook. Washington, D. C.: National Council of Teachers of Mathematics, 1953. Ch. 9.

Witty, Paul Ed. The Gifted Child. Boston: D. C. Heath, 1951.

MODULE III

PLANNING

SECTION I

PLANNING FOR INSTRUCTION

THE IMPORTANCE OF PLANNING[1]

It is always true that the better the plan, the more work can be accomplished. Planning is the key to proper utilization of time, energy, materials, and resources. The teacher plan book should contain adequate notes and outlines so that a systematic approach can be made toward the solving of the problem at hand. Keep in mind that the plan book must be prepared in perhaps greater detail than is necessary for the teacher's use alone. It must also serve the principal, assistant principal, supervisor, and the guest teacher when the need arises. The instructional plan book should always show the lessons which have preceded the current lesson in this unit as well as the lessons to follow. Plans should be made well in advance. (Never less than a week.)

Children are quick to detect poor preparation on the part of the teacher and are usually more than willing to follow the example set. Picking up the instruction each day from the point at which it was closed the day before requires skill and attention to details. Frequent notes should be placed in the plan book and evaluation should be made of lessons taught as a guide for the future.

Planning is the key to an effective learning experience. It involves the teacher in the selecting of techniques, materials, and procedures which in the teacher's judgment will serve best to realize the stated objectives of the course. Preparation for beginning the year's work requires the planning of large blocks of content in terms of the time needed to carry out the instruction. This kind of planning may be done for the year or a semester. It should be tentative and subject to adjustments as needed. More detailed planning is usually done in terms of units of work. Concepts, understandings, skills, and other objectives can be specifically stated in terms of student behavior, the learning activities can be arranged in sequential order, possible techniques and materials can be listed, and criteria for evaluation can be considered. Day-to-day lesson planning is the detailed development of the unit of work in terms of specific objectives and the learning activities which the teacher selects to achieve them. In order to organize a sound daily lesson plan, teachers must understand both the immediate and ultimate objectives that are sought through the curriculum as a whole as well as through each unit and each lesson.

BASIC ASSUMPTIONS

1. The teacher knows something about the students and continually endeavors to learn more about them so he can better assess their strengths, weaknesses, deficiencies, modes of thought, habits, reactions, and other characteristics which will aid him in guiding the student through appropriate learning activities.

2. The teacher is familiar with the psychology of learning and applies this knowledge to the best of his ability.

3. The appropriate tools and materials of instruction are available and the teacher knows how and when to use them effectively.

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[1]This section adapted from the Handbook for Secondary Mathematics Teachers, MCPS, pp. 95-99.

4. Planning in terms of objectives and desired outcomes, as reflected by changes in student behavior, is essential for effective learning.

ELEMENTS IN PLANNING

1. Nature of the learner

The teaching process involves as its first step the gathering of information and part of that information has to do with knowing the students which are to be taught. Much study and research has been devoted to "the nature of the learner" over the past half century and while the last word is not yet in, and probably never will be, there is some general agreement about the characteristics of learners. Books and courses are devoted to this subject alone, so a detailed discussion is beyond the scope of this module, but this information has such significant implications for planning that review seems to be in order. Some basic conclusions include the following:

a. Each individual is unique.

b. The human organism is a dynamic whole that develops in interaction with an active environment.

c. The physical, intellectual, and emotional aspects of behavior are inseparable and operate as a unity in behavior.

d. The goals of the individual (interest, ideals, wants, needs) provide the driving power for development.

e. Human behavior is essentially purposeful and goal-seeking.

f. The ability to think reflectively varies with individuals, but all normal individuals possess it in some degree and can improve their ability through appropriate education.

The more a teacher can know about each individual student the better he will be able to plan appropriate learning activities, diagnose difficulties, help the pupil accept his own limitations, and to guide students in achieving their goals. It can be very difficult for a teacher to determine the reason for continued unacceptable behavior on the part of a student. There are so many factors involved, that the teacher often has to set up a hypothesis and act accordingly to see if this course of action produces any results. Repeated trials with different hypotheses are often called for and there are times when all results are negative.

2. Learning Objectives

Another aspect of gathering information is the specification of learning objectives. The teacher needs to have in mind exactly what kinds of behavioral change on the part of the students he is seeking. What skills or understandings does he expect students to exhibit? What objectives have students identified as desirable? The teacher knows that there will be considerable

differences in the degree of understanding among the students. He will have to consider the extent to which a specific objective must be achieved in terms of the students being able to achieve the objectives which will follow. One extent of achievement might be described as essential. This would be the lowest acceptable level such that the student could function without encountering frustrations to the point that progress was blocked as he proceeded toward the achievement of future objectives. Another level might be described as desirable, a level the teacher knows would permit satisfactory progress toward a new goal. The top level might be called optimum because the teacher is delighted to have his expectations exceeded.

3. Learning Activities

Having gathered the information which included the elements previously discussed, the teacher is ready to do the actual planning. Learning activities, management procedures, and evaluation activities are all interwoven ingredients of the planning process, but are considered separately here for the purpose of emphasis.

The learning activities which are planned for any lesson play such an important part in determining the kind of reaction the student will have to the lesson, that some criteria should be used in the selection of the appropriate activities. The characteristics of an effective learning experience will be used as a guide in this case and are listed as follows:

a. The learning experience is meaningful to the student.

b. Appropriate motivation is essential.

c. Practice is necessary but not a sufficient condition.

d. Effective learning is continuous and developmental in nature.

e. The active participation of the learner is required for best results.

f. The experience is pleasing and satisfying to the learner.

g. The learning experience is challenging to the learner.

h. Knowledge of one's progress contributes to effective learning.

i. Emotional, social, and physical environmental factors can enhance or detract from the learning experience.

The lesson plan should include learning activities which are exploratory. Such activities usually provide motivation, arouse interest, present a challenge to the learner, and by their nature exploratory activities involve the student in doing something. These activities should be selected so that the basic objectives established by students and the teacher may be met and so that the learner may become aware of other possible objectives.

The challenge has been presented to the student so that he is now ready to participate in the discussion or the activities that have been selected by the teacher to bring about the identification of the learning objectives.

The learner has questions he wants to have answered: how, why, will it work in this case? He tries some more examples. The lesson plan anticipates this kind of reaction on the part of the student and includes learning activities which will guide the student to obtain more insight and greater depth of understanding. If all goes well, the learner is on his way to attaining the objectives. Achievement results in a satisfying experience for the learner. The teacher will provide in the planning process a variety of activities and exercises so that the criteria of practice is satisfied and the activities are differentiated so that all of the students have something to do that is meaningful to them. A good plan would not include assignments that do not present a challenge to the more capable student. Neither would it require work of the slower learner that leads to frustration because it is beyond his level of operation at the moment.

Exercises, activities, and application are selected to help the learner obtain the objectives, but the plan does not include additional exercises ad infinitum until every student can add without ever making a mistake, or factoring exercises until every student can factor without error. This would be a very boring experience. The teacher plans new lessons to obtain new objectives which will require the use of previously learned skills and will build upon the understandings which have been planted in the minds of the students but now need cultivation. The learning process is continuous and developmental so the teacher plans future learning activities that will continue to reinforce skills and nourish understanding.

Since planning for teaching is planning for learning, and since learning is accomplished through activity - mental, physical, or both - then planning for activity must be an essential component of teacher planning. Teacher activity and student activity are herein grouped under the term "Procedures" and encompass methods, techniques, and artful devices which affect learning.

In determining the meaningful activities in which the student and teacher will engage, the teacher must consider:

Who is to do the learning?
What is to be learned?
How it is to be learned?

Certainly, <u>who</u> is to do the learning will be the primary consideration of the teacher. While the objectives are conditioned by the course of study, and the techniques are conditioned by the objectives and available materials, the needs of the student dictate to both. Teaching procedures must be adapted to the individual class and to the individual student. Therefore:

Know your student.
Know his problems.
Know his level of ability.
Know his level of achievement.

The second consideration governing teacher activity and student activity is what is to be learned - the objectives. If unit review is the purpose, reading the textbook for information would not be advisable. Perhaps a cross-number puzzle type of review would be effective. On the other hand, if the purpose of the lesson is introducing a new unit of instruction, the teacher may decide upon entirely different teaching techniques. Perhaps he will perform an experiment to permit student questions to introduce the unit. The teacher may talk so as to relate the students' past experience to the new topic. Occasionally, a teacher may initiate a new unit of instruction by an objective test so that the student who has previously studied one phase of the topic will realize that he has not investigated the present phase of it. The decision as to the appropriate techniques is up to the teacher and he will make his choice in terms of what the students are to learn.

While the WHO and the WHAT are conditioning factors in determining procedure, the HOW is the heart of it. The teacher will plan:

How the learning experience is to initiated.
How the learning experience is to be focused.
How the learning experience is to be concluded.

MANAGEMENT PROCEDURES

A good lesson plan can fail to result in the desired outcomes even though the learning activities were most appropriate and other factors were operating favorably because the teacher failed to take into account management procedures. An unexpected interruption such as a student inquiry about sharpening a pencil or leaving the room, can distract other students and divert their thinking at a crucial moment when a break-through to insights is pending.

Interruptions and distractions to cope with organization matters are minimized by planning. At the beginning the teacher should develop routines and accepted practices by a concentrated effort to establish desired patterns of behavior. Students should participate in this operation so they will appreciate and accept the procedures. Consistent practice will soon establish most routines.

Teachers should include in their plans such details as when and how papers will be distributed or collected, changes in the arrangement of seats should the instructional activities call for such measures, the use of equipment and discussion procedures. There is no best way to do these things. Some ways work more smoothly with some groups than others, but the important aspect is that they are part of the teaching process, and are factors to be considered in the planning. Procedures should be kept as simple as possible, should be clearly understood by the students, should be followed consistently, and should be enforced equally with all students.

NOTE: Management procedures will be discussed in more detail in Module V.

EVALUATION ACTIVITIES

The interrelationship of all the elements of planning warrants some discussion here. Evaluation takes many forms, and in the truest sense is a continuous process. The teacher cannot wait until the end of the week to find out if the instructional activities are resulting in learning. There is need for almost immediate reaction on the part of students so the teacher can constantly judge whether the sequence of planned activities is appropriate, whether the discussion should continue longer, whether there should be more illustrations, whether the students should work more of the same type of examples or more complicated ones. By the same token the student needs to know whether his responses are the correct ones or whether he is attacking the problem logically. This interaction is commonly called feedback and is a form of evaluation to both parties.

Without feedback the teacher has no way of knowing how best to proceed, with the exception that blank stares and no questions is a pretty good indication that the explanation is not registering with the students. Good planning makes provision for feedback by including the kinds of learning activities that must by their nature produce information as to effectiveness. Daily or frequent short quizzes are sometimes used to help the teacher evaluate the level of achievement. They have their purposes but are not sufficient interaction to result in the most efficient learning. A student might work a whole series of examples incorrectly in class and continue his error on a homework assignment simply because there was not enough of feedback to get him started correctly. It could very well take longer to have this student unlearn his error than it would have taken to teach him the correct way in the first place.

It is important to emphasize that any kind of evaluation which results in grades should be clearly understood by the students who are going to be graded. Teachers usually have some kind of a system of weighing unit tests as compared to "pop" quizzes and having the satisfactory completion of assignments affect the grade for the marking period. Whatever system is being used it should be known and accepted as fair by the students.

OTHER FACTORS

Good planning will include consideration of the materials that are needed. Such materials will be made available before the learning activities are undertaken. It is advisable to check the operation of projectors, recording machines, and similar equipment to avoid distractions and interruption during teaching. It is recommended also that films, filmstrips, and records be previewed before the lesson so that the teacher is certain they satisfy the requirements. There is an art to varying the tools of instruction and using them to best advantage, but practice and experience are necessary for the artist.

The teacher will take into account the emotional, social, and physical factors which affect the learning experiences of the students. He has considerable control over such environmental factors as room temperature, light, arrangements

in the room, attractive decor, etc., and will see that they do not detract from the learning experience.

Finally, the teacher as a person, apart from his skill in the art of teaching, has an effect on the learning experience. The teacher owes it to the students to make the most of himself. Some youngsters do notice what the teacher wears, whether the teacher is well groomed, or whether the teacher's voice is pleasant or irritating. Most of all, the teacher must be enthusiastic about what he is doing.

SECTION II

THE TOOLS OF INSTRUCTION

WRITING BEHAVIORAL OBJECTIVES

During the New Teacher Orientation Program, you will get practice in writing behaviorally stated objectives. The following readings related to behavioral objectives are available in your support library; therefore, this module does not contain any additional information.

Developing Teacher Competencies
Chapter 2, Formulating Performance Objectives, pp. 43-80.

Teaching Behavior Improvement Program
Behavioral Objectives, pp. 117-132.
Micro-teaching, pp. 135-146.

SELECTING THE CORRECT MATERIALS

As early in the year as possible, you should examine materials available in your school as well as some of the materials which are available from the central office. The book, Diagnosing Classroom Learning Environments, available in your support library, may help you in selecting materials for your class. Also discuss possible selections with your program leader, resource teacher, or teacher specialist.

PROCEDURES FOR EVALUATION OF INSTRUCTIONAL MATERIALS

BASIC PRINCIPLES

The tremendous quantity, broad range, and varying suitability of instructional materials and equipment available for use in the Montgomery County public school system demand that careful evaluation be exercised in their selection. Both general and specific criteria have been established for the appraisal of instructional materials and equipment. Five broadly defined criteria have been determined:

1. Instructional materials are those items used in the teaching-learning process and which are designed to impart information to the learner. A wide variety of instructional materials--textbooks, charts, maps, globes, periodicals, motion pictures, filmstrips, recordings, models, etc.--is essential for best instruction.

2. The most important objective in all selection procedures is to locate and make available for teachers and pupils the most suitable materials that can be found to help in reaching the goals set forth in the various subject areas.

3. Selection of materials should be based upon the judgments of those who are to use them. Group evaluations are generally preferable to

individual evaluations. Evaluations are best when they are based upon actual teaching experience in using the materials.

4. The selection of instructional materials should be considered in terms of the total curriculum and should be closely coordinated with curriculum revision to assure current and suitable materials.

5. General criteria to be applied are authenticity, contribution to learning, appropriateness to particular curriculum and grade levels, excellence of quality and good value in terms of purchase price. These criteria also serve as guides for the selection of free and inexpensive materials.

In selecting instructional materials the characteristics of students--their interests, attitudes, experiences, knowledge and skills; the learning pattern that will be most beneficial for the pupil; the specific goal and the total curriculum must be considered. In essence then, all instructional materials selected for the public schools of Montgomery County must serve the best interest of learning and foster the educational goals established by the Board of Education. (See pp. 74-79.)

DEFINITION OF INSTRUCTIONAL MATERIALS AND EQUIPMENT

INSTRUCTIONAL MATERIALS

Instructional materials are those items used in the teaching-learning process which are designed to impart information to the learner. They may be consumable and expendable but are generally nonconsumable and fairly durable, such as:

Books: Texts, Reference, Supplementary, Library
Films, Filmstrips, Slides, Transparencies
Recordings: Audio Tape, Phonograph, Audio Cassette, Video
Pictures
Newspapers) No criteria presented for these
Magazines) broad media of communication
Maps
Charts
Globes
Specimens, Models
Workbooks
Programmed Materials

INSTRUCTIONAL EQUIPMENT

Instructional equipment is defined as those items used in conjuction with instructional materials which exceed a cost of $5.00 and are inventoried in single units. Such items are nonconsumable.

Projectors, all types	Amplifiers	Microfilm readers
Record Players	Models	Tools, large
Tape Recorders	Screens	Microscropes
Microphones	Cameras	Teaching Machines
	Flannel Boards	Musical Instruments
		Office Practice Machines
		Television receivers
		Videotape recorders

TEXTBOOKS

Experienced teachers agree that the perfect textbook in any subject area has not been written and never will be written. Another common agreement among teachers regarding texts is "you never really know a textbook until you have used it to teach the course."

Some of the factors which may be considered in the selection of textbooks are:

1. The author's philosophy of learning and teaching his subject, his purposes in the text, and how well he achieves his objectives.

2. The sequence, scope and depth of content and the extent to which these agree with the MCPS course of study.

3. The treatment and development of concepts and whether they meet currently accepted professional standards.

4. The inclusion of such teaching aids as differentiated exercises, chapter reviews, summaries, self-evaluation exercises, tests, answers, etc.

5. Availability of supplementary teaching materials such as teachers' manuals or guides, text booklets, answers to exercises and tests, programmed lessons and additional references, etc.

6. The usability of text from the students' point of view.

7. The appropriateness in terms of language, reading level, content for the grade level and course for which it is intended.

8. The provision for individual differences through organization of content and differentiation in exercises and problems.

9. The physical features of the text (print, format, diagrams and illustrations, durability, use of color, etc.).

The approved list of textbooks, both basic and supplemental, is published each year by the Department of Educational Media and Technology.

Most of the books on the approved textbook list have accompanying teacher's manuals or guides which contain suggestions for presenting and developing concepts. Judicious use of such suggestions can enhance the usefulness of the text, help fulfill the author's purpose, save time for the teacher, and facilitate learning. If tests are available for the texts, the tests can be valuable tools of instruction. It is often desirable to have several copies of different textbooks or reference books available in the classroom for student use.

MCPS RESOURCES FOR PLANNING

If you need help making instructional plans, the following help may be available to you.

Sample model for daily plans (See p. 61)
The course of study
Assistance from your program leader
Assistance from your resource teacher or teacher specialist
Assistance from others in your building

Ask your program leader about other resources available to you.

SOME HINTS ON LESSON PLANS AND UNIT PLANS

Model of What May Be Expected To Be Included In A Daily Lesson Plan

OBJECTIVES (written in behavioral terms)

As a result of this lesson the students will:

1. be able to add two digits
2. explain the difference between set and subset
3. define the term operation
4. make a pictograph
5. describe the commutative principle
6. apply a rule
7. state a rule
8. demonstrate a rule
9. interpret a rule
10. distinguish
11. name
12. arrange in order

PROCEDURE (in terms of students, usually)

1. Check homework by putting answers on overhead projector and having students ask questions.

2. Discuss the commutative property.

3. Test examples on the board.

   $3 + 2 = 2 + 3$
   $2 \cdot 3 = 3 \cdot 2$
   $2 - 1 \neq 1 - 2$
   $8 \div 2 \neq 2 \div 8$

4. Test to see if everyday events are commutative.

   Put on shoes and socks.
   Put on hat and coat.
   Brush teeth and wash face.

5. Assign page(s) 300-301, and give an explanation for the assignment. Give the remainder of the time to begin work on the homework assignment and answer individual questions.

MATERIALS

List any materials you will need for the class other than what is usually in the room. Ex., film, film projector, transparency, overhead pen, construction paper, etc.

EVALUATION

How are you going to determine whether the students met the objectives?

1. Observe homework papers as the students work.
2. Types of questions asked during the discussion.
3. A drill at the beginning of the next day's class.
4. Five-question check-up test in class.

How do you feel about the lessons?

1. What worked well?
2. What did not work out right?
3. What would you change if you could teach this lesson again?
4. How would you change it?

A SAMPLE MODEL FOR DAILY PLANS

Name_____ Date_____ Lesson_____

BEHAVIORAL OBJECTIVE	What observable behavior will take place as a result of this lesson? Include: Givens, conditions and performance expected	Program Leader Notes and Suggestions
MATERIALS	Which specific books, supplies, and materials will be used to teach this lesson?	
SET INDUCTION	How can we tie in old learning with the new? How can we get immediate pupil involvement?	
STRATEGIES	Which teaching strategies will be used as the most effective means to reaching the objective?	
CLOSURE	How can we summarize the major points of this lesson?	
EVALUATION		

A SAMPLE OUTLINE OF A UNIT PLAN

I. Generalizations

How does this express the goals of education?

How does the unit express scope and sequence of curriculum?

How is this unit pertinent with the lives of the students?

II. Behavioral Objective

What observable behavior will take place as a result of this work?

III. Content

How do we include the student's background with this work?

How do we begin this unit as a part of ongoing social studies in our school?

What will be the major emphasis of content as planned by the teacher with the students?

IV. Resources

How shall we list or record all materials used?

Will we use local persons as speakers?

What films, filmstrips, tapes or other audio-visual equipment and materials will be used?

What textbooks, reference books, pamphlets, newspapers, bulletins, maps, charts will be needed?

V. Procedures and Activities

Are the students involved in the planning?

Will the work be group or individual work, or some of each?

How will we plan the groups? Who will be responsible for them?

What will be required from the students in written work, activities, program, exhibit or discussion?

How will the group reporting be made to the class?

How is the active period and the quiet working period planned?

Will this work be shared with other classrooms of students?

STEPS IN PLANNING A UNIT OF STUDY

STEP 1:

Having determined the general subject and objectives for the unit the teacher analyzes pupils' needs in relation to that subject and plans content accordingly, including the following factors:

a. Make allowances of individual needs and how they can be met

b. From reading take notes to help outline content (file cards make it easier to note bibliographical information)

c. Consult basal text and several other texts to broaden the content approach

d. List specific ways in which desirable knowledge and skills can be correlated to meet the objectives.

STEP 2:

The teacher surveys existing resources that will contribute to meeting the objectives, including the following factors:

a. Examine classroom resources, note how they may be used, and make them accessible to students

b. Skim through books and materials in the school library

c. Check on resources of the public library

d. Study the audio-visual guide for the most promising films, filmstrips, records, and study units

e. Look for prepared units that can be made accessible to student

f. Collect relevant pictures, displays, models, songs, poems, etc.

g. Inquire from program leader or other teachers about possible resource people or other community resources which might make the unit "live" through trips, visits, etc.

STEP 3:

Correlating content and pupil needs, the teacher identifies activities and teaching strategies that will help pupils achieve the objectives. The teacher considers the following factors:

a. Initiation of the unit

b. Motivation of students, including their interests, suggestions, visual stimulation, active involvement

c. Possibilities for individual and group investigation

d. Use of display centers that can be available to students

e. Flexibility of the unit to make allowances for the inclusion of new ideas as the instruction progresses

STEP 4:

The teacher plans means of measuring the success of the instruction in terms of the objectives. (Perhaps your program leader can help to review the plan and make some suggestions for improvement.)

STEP 5:

The teacher prepares a projected calendar and daily plans, including the following factors:

a. Daily objectives

b. Reserving audio visual materials and equipment

c. Reminder of deadlines for preparing materials

d. Advance notice to pupils on expectations for them to meet

MODULE IV

MANAGEMENT

SECTION I

CLASSROOM MANAGEMENT

Before reading this module, please read over Starting the Year Right, a pamphlet which you received in your New Teacher Packet.

You will recall that classroom management procedures which deal with the routine aspects of classroom operation fall into four categories:

1. Movement and placement of persons in and around the classroom
2. Distribution and collection of supplies and equipment
3. Discussion procedures
4. Assignment specifications

Planning in each of these categories should be specific and detailed, but planning alone is not sufficient. The teacher must be patient and persistent in seeing that the plans are carried out and must be consistent in this effort.

Beginning teachers frequently fail to realize the degree of specification required in planning classroom routines, thereby creating the occasion for some undesirable student behavior. If students' energies are to be directed toward the attainment of the learning objectives, most of the routine decisions must be made in advance. If, before a student can begin work on an assignment, he must spend time and energy on routine decisions, less time and energy will be available for the substantive aspects of the assignment. Where careful and complete specification by the teacher is not made, frustration on the part of students is often observable in the form of restlessness and inattention. A teacher cannot overplan the management procedures of a classroom.

MOVEMENT AND PLACEMENT OF PERSONS

Arrange your furniture for the first day. Start with a fairly traditional arrangement until you know your children by name and have established control. Then make seating charts and learn names quickly.

Plan ahead so that students may move in any organized way from one activity to the next. The first day of class, try not to have more than one person out of his or her seat at a time.

DISTRIBUTION AND COLLECTION OF SUPPLIES AND EQUIPMENT

Plan ahead. Even though you will frequently change these plans, have materials ready every time you enter a classroom for every scheduled activity.

There must be a way of getting books and materials, a time and procedure for sharpening pencils, an organized way of entering and leaving the room, ways of working and playing, as well as policies of respecting others' rights. Discuss with the students such points as leaving the room, of talking softly, and so forth.

Another hint. Don't assign all classes written work that will be due on the same day and create an impossible workload for yourself.

Starting the Year Right contains other hints on the distribution and collection of supplies.

DISCUSSION PROCEDURES

In your support library, the ERIC publication, The Teaching Behavior Improvement Program, (pp. 147-169) describes the following discussion procedures:

1. Questioning
   a. Levels of Thinking
   b. Probing Questions
   c. Clarifying Questions
2. Using Student Ideas
3. Accepting Student Feelings
4. Praising and Encouraging Students
5. Establishing Set
6. Achieving Closure
7. Encouraging and Controlling Student Participation
8. Providing Feedback to Students

You should now read the above article and Chapter 3 in Developing Teacher Competencies (also in your support library).

ASSIGNMENT SPECIFICATIONS

To be successful, a learning activity must be understood and accepted by the students engaging in it. Students should be fully informed as to why they are engaging in a particular activity and as soon as possible to what extent that participation is successful.

Write assignments on the board and make sure that every student understands every assignment. Make sure students know exactly what they are to do.

Always check assignments and let the students know you checked them.

Find out about your students - distribute a questionnaire to learn more about backgrounds, interests, goals, etc. Whenever possible, relate assignments to student goals.

Have a specific plan for each day for each group. Plan too much rather than too little. However, do not make assignments so long that the student is discouraged.

SECTION II

THE CLASS AS A SOCIAL UNIT

DISCIPLINE TECHNIQUES

At one time or another all teachers have discipline problems. Knowing what to do and how to react comes with experience, but until you have gained that experience it is usually better to act quickly and positively within the bounds established by the school. Therefore it is important to know what the general policies are in your school.

To establish a pattern of guidelines for discipline which would be equally effective for all teachers in all cases is an impossible task. Each teacher, each student, and each combination of the two are unique situations and, therefore, require unique treatment. However, the ideas which follow may be of assistance to all teachers.

Students will generally respond to a system of a disciplinary control where the measures of control are:

1. Consistent - an action punished today is not overlooked tomorrow.

2. Fair and just - penalty is based on all the facts and not either more or less severe than the offense.

3. Impersonal - not based upon the teacher's personal attitude or emotional feeling.

4. Constructive - penalty is of a positive nature.

5. A natural result of misbehavior - paying for something damaged.

Some positive steps which should be taken by the teacher in establishing control over a student or a class are:

1. Learn as much as possible about all your students. A student who misbehaves will generally cease to do so when he finds that the teacher has made an effort to understand his problems and has a sympathetic attitude toward helping him obtain a solution.

2. Seek the advice of the guidance counselor, assistant principal, or other teachers. In many cases, a teacher-promoted conference regarding the student with the counselor or jointly with the teacher, parent, and counselor, or teacher and parent, will yield surprising results.

3. Use the information obtained on each student in your work assignments and classroom techniques. Many problems will be avoided if the student's ability and background of understanding are taken into consideration when assignments are made and classroom activities are being carried out.

It is a good rule never to engage in a discussion or argument with a student when either the teacher or the student is at a high emotional pitch. Although this sometimes requires a large measure of self-control on the part of the teacher,

failure to do so will almost surely complicate the problem many times over its original importance.

NOTE: You should discuss your school's specific discipline policy with your program leader.

The establishment of a good climate for learning in the classroom is the responsibility of each individual teacher. He must conduct his class and handle his students in a manner which is consistent with his own standards. The following are suggestions to help make this task easier.

1. Do make your rules, regulations, standards, requirements known and clearly understood by all your students. Be consistent!

2. Set realistic goals and standards for each group or class.

3. Don't make an issue of everything.

4. Don't make any 'threats' you cannot or do not plan to carry through.

5. Be careful not to indict the entire class for the actions of part of the class.

6. Do not use homework as punishment.

WHEN WE DEAL WITH CHILDREN WHO EXPRESS DISRUPTIVE BEHAVIOR[1]

PLANFUL IGNORING. This is a place to start. Ignore the action but plan what to do if the situation arises again. You can try this once, twice, maybe three times. If it doesn't work, switch to another approach.

SIGNAL INTERFERENCE. This can be done by a look, a shake of the head, etc. People can sometimes change their behavior if they're given a signal of when to change.

PROXIMITY RELATIONSHIP. Be aware of where a trouble area is and move toward it. When the trouble ceases, gradually move away--slowly, softly, be aware of what is happening as you leave the trouble area.

HURDLE HELP. Giving extra help at special times when a child comes to a hurdle he has to overcome. Timing is essential in this approach. Beginnings and endings of tasks create much anxiety, particularly for children who are having trouble, and are good times to give special help. The object is to take initiative to reduce frustration and anxiety before a child chooses disruptive means to overcome frustration.

RESTRUCTURING. Changing an activity before the usefulness of the activity has worn itself out. (All activities, as good as they are, have limits to their

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[1]Adapted from Dr. Angelo S. Bolea in The Core Communicator, Prince Georges County Public Schools, Vol. II, No. 3, May 1971.

usefulness.) Be sensitive to this and change the activity, even if it is just having the children get up and move around. Every activity collects "emotional debris" or "garbage" and time must be allowed to get rid of this before going on to the next activity.

REASONING AND DISCUSSION. If the child doesn't have reasoning powers, don't use reasoning. Rapport must be established before this approach can be attempted. When you reason with a child have him do most of the talking. If there is an overbalance in reasoning and discussion, have it come from the CHILD! Don't do the child's reasoning for him.

APPEAL TO. Appeal to a quality within the child--rapport, friendship, helper, etc. If there is nothing to appeal to, don't use this techniuqe. It might be the first time any one has ever appealed to him as a friend, helper, sense of fair play, etc. and it may involve social relationships that he has not developed. If this is true, this approach may not be effective. Develop something to appeal to in your relationship with the child before appealing to it.

SOLVE IT YOURSELF. Have a place in the room or school where the child can go to think about and try to solve his problem. This place should be quiet, neutral, nonpunishing, and where there is a minimum of distraction. The child can write, draw, etc., about this problem to relieve tension. Let him give you his solution and let him try it out to see if it will succeed.

FROM THIS POINT ON "FOLLOW-UP" BECOMES INCREASINGLY MORE IMPORTANT.

GRIPE SESSION. Time for everybody to "air" his gripes. You might get the gripe session going by giving your gripe. If a gripe is against you, don't let another child come to your defense and don't defend yourself. Gripe time must be free of guilt. If students begin griping about other teachers or the principal - stop them and say they can gripe about others outside of the classroom if they get permission from that person. Interfere if it gets to be a ganging up on a child and say you and the child involved can talk about it later. A good way to end gripe sessions is to have each child write one gripe about school life in general and what you or they might do about it to change it.

SPECIAL PERMIT WITH SHARP BOUNDARIES. Put a time limit on the special permits - five or ten minutes. When time is almost up get students ready by saying there is one more minute to go. When the time is up, stop. Be sure you stick to the sharp boundaries you have set up and that the children adhere to them. Make clear what is acceptable and unacceptable behavior.

FIRM REQUESTING AND FORBIDDING. Don't be timid about firmness and don't be pushed into a corner before you use it; "please" is not appropriate here. This is not a time for discussion and reasoning. That will follow at a later time. The fewer words used in firm requesting and denial the better. Don't feel guilty. Be sure to follow this up with reasoning and discussion at a later time to check out the fairness of your request.

THERAPEUTIC HOLDING AND GUIDANCE. Make sure you've got the strength to hold the child until he is under control; if not, get help. This approach does three

things: one, it keeps him from hurting himself and others; two, it is a way of releasing feelings other than by physical force; three, it provides a time for the child and teacher to form some kind of rapport. (He might use some rather fancy language; let him. You will need to talk about the behavior later.)

THERAPEUTIC BOUNCING. Getting student out of the room. If you are going to do this, make it quick and without threatening forewarning. Send him to a neutral place decided upon by a group of teachers so a teacher will be with him at all times. This should be a place for him to "cool down," think about what he has done, and try to find a solution. Avoid as much as possible sending him to the principal. The office might be selected as the neutral place with the understanding that the child is to be greeted only and then left alone. This is not the time for a free lecture or to use him to run errands. If you think he can go on his own, let him. If not, take him. Do not threaten for this only creates more fear, which he already feels in relation to adults --as well as hatred. Before he comes back to the room, be sure there is a follow-up session for reasoning and discussion with future follow-up sessions.

REFLECTIVE LISTENING. Reflect his feelings. Pay attention to non-verbal messages such as body position (how he holds his head, his arms) which indicate he has trouble.

HELP ME APPROACH. A genuine call from you for his help in helping him overcome his problem. Be willing to wait for his help, to listen to him. Then help him understand his problem and ways you can work together toward its solution.

S.O.S. SOUND OF SILENCE. Wait for a child to speak. The silence is thunderous. Silence seems intolerable to humans. Once they break the silence and start talking, keep them talking. This approach can be used on a one-to-one basis or with a small group. It is a difficult approach for teachers who feel they are paid to talk.

WALKING AND TALKING CONFERENCE. It is very difficult for a disruptive child to sit for a conference. If it is near the end of the day, wait until others have left and let the child walk around the empty classroom while you talk to him. You can even be working as you do this. Limit conferences to five or ten minutes. Schedule additional conferences until you feel they are not needed. Be certain to be in continuous movement as you talk to each other.

ROLE-TALKING AND PLAY FANTASY. Rehearse alternatives as to what to do when the same problem arises. Provide opportunities for acting them out, for re-education. You must rehearse the solutions to the problem. Act out the alternatives. Both release of suppressed feelings and re-education of new ways to behave are necessary in the process of self-discipline.

SCHOOL PHILOSOPHY

Montgomery County school philosophy is based on the goals of the Montgomery County Public Schools, as adopted by the Board of Education. You should become familiar with these educational goals as well as those of your individual school.

STATEMENT OF EDUCATIONAL GOALS FOR THE MONTGOMERY COUNTY PUBLIC SCHOOLS

The goals of the Montgomery County Public Schools reflect the values and expectations of the society they serve. They are essentially an affirmation of the most cherished ideals of American democracy. Faith in the dignity and worth of each individual dictates two major responsibilities to the schools. It means that the doors of the county public schools must be open to all children and youth regardless of ability, background, race or creed. It necessitates different educational programs for different pupils, such programs being tailored to fit the capacities, interests and talents of a wide variety of youngsters.

The public schools of Montgomery County are not alone in their commitment to this task. The responsibility is shared and must continue to be shared by the other great educational institutions of the community--the home, the church, and other civic and social organizations.

The faculty of each school was given the opportunity to help formulate and define the goals. The statements which follow are essentially the result of the joint efforts of teachers, principals, and supervisors. There was general agreement on the listing of the skills goal first as a primary concern of the schools. No consensus was reached, however, on the order of presentation of the others, hence no special significance should be attached to the order of their presentation.

In reading the expansion of the goals, it is necessary to bear constantly in mind the two initial paragraphs beginning "We believe. . ."

We believe that all children and youth have the right to public education which will permit and promote the optimum development of each person in our democratic society.

We, therefore, believe that the educational program of the Montgomery County Public Schools, kindergarten through twelfth grade and such other programs as may be approved by law, shall provide opportunity and motivation for developing:

Competence in the Fundamental Skills of Listening, Observing, Speaking, Reading, Writing, Spelling, Mathematics and the Arts

The complexity of modern living requires that each citizen acquire a functional knowledge of and skill in the tools of thought and communication. Among these

tools are the traditional 3 R's of reading, writing and arithmetic. Knowledge of and skill in the 3 R's are not enough. Systematic and sequential training in the skills basic to learning today is an integral part of the total program.

Language teaching now includes all phases of communication. Mastery of communication means not only the mechanical and skill aspects of reading, writing, composition, correct usage, spelling, punctuation, speaking and listening, but also skill in the use of the library and reference materials. If these skills are to be functional, emphasis must be placed both upon understanding of the meaning of the symbols of language and upon the constructive uses to which they can be put.

Grasp of mathematics depend not only upon understanding of mathematical concepts and command of fundamental processes but also upon skill in analyzing and solving problems. Furthermore, mathematics is the language of science--an area of knowledge which requires skill in observing, experimenting, and precise recording. Similarly technical skills permeate the arts, both fine and practical.

Recognition of and Respect for the Worth of Each Individual

Each child's rate and pattern of growth must be known and considered in planning and conducting his educational experiences. The rate of progress of each individual and his ultimate level of accomplishment differs according to innate potentialities and to the stimulus of his surroundings outside of school as well as within. Each child of school age needs to achieve status and recognition which are basic to his attaining maximum growth and development. The school, therefore, provides opportunities for developing respect for self and for other members of the group. Standards of achievement are set within the ability of the pupil.

The school creates an attitude of respect for contributions sincerely made. It helps the child develop self-discipline. It endeavors to understand and respect, as an individual, the child whose behavior conflicts with society by providing guidance for his developing understanding and appreciation of the customs, conventions and mores of the society of which he is a part.

Appreciation for and Power in Logical, Critical and Creative Thinking

Appreciation for and the development of logical, critical and creative thinking are necessary to the perpetuation of educational ideals. The school therefore provides experiences in using scientific methods--investigation, experimentation, observation, deductive and inductive reasoning--placing emphasis on growth in using the processes by which conclusions are derived, confirmed, or modified. It provides opportunity for developing skills of logical and critical thinking through experiments, demonstrations, panel discussions, and other group work directed toward the understanding of and the possible resolution of issues about which society itself is divided.

The school offers opportunities for participation in plays, debates, physical activities, clubs and creative projects directed toward the development of a frame of mind which habitually makes inferences from the concrete as well as from the abstract.

Understanding and Acceptance of the Responsibilities and Appreciation of the Privileges Inherent in the American Way of Life

Children and youth need many and varied experiences in assuming and carrying out responsibilities which are inherent in the democratic way of life. They need opportunities to develop the values essential to its preservation. They need many experiences in defining and planning for the solution of the common problems, in the gathering and evaluating of relevant data, and in arriving at a final plan through group discussion and decision. They learn thereby to modify their ideas and desires to appreciate the contribution of the individual, and to work cooperatively for the common good. In the course of their activities, they need to learn to accept and respect the decision of the majority and to appreciate the importance of, as well as the rights of, minorities. They must learn that unethical means cannot lead to ethical ends. Through student council programs and other activities they have opportunities to learn to assume such civic responsibilities as participating in election campaigns, becoming informed on current issues, running for office, and helping in the solution of such problems as the protection and improvement of school property.

Children need to understand and appreciate the history and development of our American democratic society as one which guarantees their civic rights, which strives to give them equality of opportunity through public education and to abolish barriers which tend to work against such equality. They must learn that every privilege or freedom carries with it a corresponding responsibility; for example, freedom of religion carries with it the obligation to recognize such freedom for others, freedom of speech implies the obligation to speak on the basis of ascertained facts, and the privilege of voting bears the obligation of informed participation.

Understanding and Evaluation of the Cultures and Contributions of Other Peoples

The school provides opportunities for children and youth to discover the relationship between everyday experiences and the common heritage of knowledge accumulated through the ages. The educational program seeks in the events of the past, as well as in the events of today, meanings and understandings which have been tested and found to have continuing worth as guides for making choices among possible courses of action.

The school provides opportunities to develop an understanding of the basic physical, emotional, spiritual and cultural needs of man and his potentialities. It also provides opportunities for understanding the structure and function of governments, the responsibilities and problems of members of the family of nations, and the contributions of individuals to many cultures. Through understanding comes appreciation of the likenesses and differences among peoples and of their interdependence in an ever-changing world.

Understanding of Scientific Truths of the Universe and Man's Relationship to Them

Children and youth explore, interpret, and work with the materials and forces of the universe. Their dynamic drives in such educational experiences are in keeping with modern science. Indeed, science has grown out of mankind's attempt to interpret and adjust to the universe.

Concepts of science related to space, time, change, variety, adaptation, and interdependence have profoundly influenced man. They give direction to education from pre-school throughout life. They reflect the way one behaves, interprets, or works with the physical and social environment. The understanding one has of the environment affects his attitudes, emotions and values and has much to do with the development of resourceful and responsible behavior.

For our children and youth to become adequate in understanding the universe they need guidance in developing ability to revise their ideas. They must learn what is accepted as fact today may need revision tomorrow. The school helps children and youth understand that there is power in the knowledge and methods of science.

Effective Human Relationships for Democratic Living, as They Apply to the Individual in the Family, in the School and Community, in the Country and in the World

Living together effectively in groups has been a problem of all mankind throughout the ages. Desirable human relationships, which are developed only through an active association with one's fellow beings, are based upon the willingness of the individual to respect the rights of others, to perform to the best of his ability his obligation to every group of which he is a member, to respect the worth and integrity of each individual, to be sympathetic toward points of view contrary to his own, and to understand the social and psychological factors that influence man's attitudes and points of view. The entire school program serves as a laboratory in which effective human relationships are developed.

Wise Use of Human, Natural and Material Resources

School activities are planned to develop good health, physical fitness, mental hygiene and wise use of time and energy. Recognizing that human beings will have to adjust to the atomic and space age, and to increased leisure, the schools encourage students to broaden their interests as well as increase their achievement.

The wise use of natural and material resources require that the school help children and youth develop a point of view which will aid them in understanding and applying the principles and programs of conservation. The school must also foster attitudes leading to continuous research and to the possible discovery of new resources.

Competence in Choosing and Pursuing a Vocation

The school has a responsibility for offering a broad curriculum which will aid in preparing the student for choosing and pursuing a vocation. This is accomplished by offering college preparatory, business education, and vocational courses based on the needs of the students of a particular school. Each school has a comprehensive program of guidance services, all of which help the student become increasingly self-directive in making choices. These services are an integral part of the total education program and are the responsibility of the administrator, the teacher, the counselor, and the student working cooperatively.

The guidance function has, among others, two major aspects, one which concerns the personal development of the boy or girl and one which relates to an intelligent choice of a vocation. Personal and vocational concerns of people are

closely related. Assistance is given through such means as individual and group conferences, study of occupational literature, planned exhibits, field trips and work experiences leading to occupational competence.

Respect for and Pride in Good Workmanship

The skilled craftsman or artisan who took pride in each article produced has rapidly been replaced in many areas of work by the assembly-line worker who contributes "piecemeal" to the finished product and has no pride in the end result. A lack of respect for good workmanship is contrary to the principles on which our democracy is based. In a society controlled by the people, each individual must be nurtured at home and in school so that he will realize his optimum development and will benefit society in general.

The school endeavors to instill in the young and developing child the desire to do all tasks to the best of his ability. The problem implies the need for home and school to know the assets, innate potentialities, liabilities, interests and aptitudes of each individual, so that unrealistic goals will not be set and less than one's best will not be blithely accepted.

Teaching children always to do their best is a process which is made more effective by precept and example. This process has to begin in the home and be continued in the school.

Values in Aesthetic Appreciation and Creative Expression

Values in aesthetic appreciation and creative expression may be developed through aspects of all living and learning, and are possible in almost every kind of experience and content area provided in the school. The experiences of the learner together with the encouraging attitude of the teacher are significant to the development of these values.

Aesthetic appreciation has to do with seeing, recognizing, and enjoying the significant and beautiful in all experiences. It develops out of the child's ideas of color, size, space, shape, grouping, sound, and other qualities. It is probably influenced more by the child's attitudes and values and what is familiar to him than by any mental or reasoning process.

Creativity is related to how a child or youth thinks and works. It involves imagination, feeling and the coordination of ideas, and comes about as a result of observation, experimentation, analysis, organization, and interpretation. It involves the production of something new in the form of ideas, theories, products, or procedures in human relationships.

Experiences in creating and in enjoying the beauties of language, the great variety of art forms, the exactness and precision of a mathematical formula, or the representation of some idea or feeling through dramatization, are provided on all levels of the instructional program.

Ethical Behavior Based on Moral and Spiritual Values

Ethical behavior is essential to the well-being of society and to the personal integrity of the individual; the school attempts to develop in the individual the realization that he is responsible for his acts and that he should operate upon commonly accepted principles of right conduct.

Belief in some higher, unseen power, together with acceptance of the effects of this belief upon the individual and the community, has played an important part in the history and development of civilization. Children, therefore, need to appreciate the importance of spiritual values and to guard carefully freedom of religion.

SECTION III

MOTIVATION

Your support library has the following references relating to motivation of your students. You should read these references now.

Turning Kids On and Off

Starting the Year Right

Motivation

NOTE: Although you have previously read Starting the Year Right, it should be worth your while to read it again at this point.

MODULE V

EVALUATION

SECTION I

EVALUATION PROGRAMS

AND PRACTICES

Evaluation is an essential part of the teaching-learning process. It requires that teachers have a clear idea of their objectives, use techniques which indicate the initial learning status of the students with respect to the objectives, and provide students feedback as to how well they achieve the objectives planned for them. Student progress should be assessed in terms of day-to-day unit objectives as well as in relation to performance on norm-referenced tests.

This section outlines both the processes and the supports available to teachers in evaluation.

EVALUATING AND REPORTING STUDENT PROGRESS

The evaluation and reporting of student progress are based on the attainment of the instructional objectives in accordance with Montgomery County Public Schools curriculum guides that are appropriate to the subject offering, grade, or age level. Student work is evaluated in terms of all the objectives of the subject including those cognitive, psychomotor, and affective behaviors outlined in the MCPS curriculum design and elsewhere.

In music, for example, the student is to know and understand the symbols of music (cognitive), sing a variety of music alone and in groups (psychomotor), and appreciate the musical ideas and expressions of other people, times, and cultures (affective). The MCPS curriculum guides represent the basic framework or reference source for the validation of student reporting practices.

Note: Consult MCPS Bulletin on Evaluating and Reporting Student Progress for symbols used to report student progress and their meaning.

EVALUATION PRACTICES

Evaluation is based on the attainment of the objectives of the curriculum. In the elementary school, the objectives that a student reasonably might be expected to achieve during the reporting period will be considered when the letter grade is assigned. In the secondary school, all the objectives of the unit of instruction in the course will be considered when a letter grade is assigned. At all grade levels, assessment activities designed by teachers for each objective will be used to establish standards of acceptable performance for students in their schools or departments.

Each teacher is charged with the responsibility of using the most valid and reliable evaluation procedures selected from the wide range of assessment techniques available, including observation and the appraisal of oral and written work. Teachers should design instruments which assess outcomes beyond the routine recall of facts, and they should appraise the ability of students to apply information and skills. Teachers should become acquainted with the kinds of assessment required for all the objectives of the curriculum with which they are working. They should work together to develop common and fair standards for evaluating student work.

The overall goal of instruction should be the attainment of as many objectives as possible by each student. Teachers should not assume that grades must be distributed according to a normal frequency distribution or any other kind of rating scale or curve. When relatively large numbers of low letter grades are noted in the distribution of grades for a class group, the instructional program should be re-examined to find ways of improving the learning experiences of students who are not achieving.

Letter grades are not adjusted by personality factors, social achievement, or deportment. Such criteria as attention in class, submitting assigned work on time, and other work study habits are considered only as they are germane to the achievement of the defined objectives of the course or subject.

EVALUATION FEEDBACK

Student

Instructional objectives and ways of demonstrating their achievement should be made clear to each student, and he should be given continuous feedback on the quality of his work. The purpose of such feedback should be to assist him in attaining each objective of the unit of instruction, not to tell him where he ranks in relation to others.

All quizzes, tests, and examinations will be evaluated and returned as soon as feasible and review with the student before the next test is administered. Essays, papers, and long-term projects will be evaluated, returned, and reviewed with the student before the administration of a test that will cover the subject of that assignment.

Parent

Parents should be apprised of learning difficulties through the reporting system and by conferences as they may be needed. When the student is experiencing learning difficulties, the teacher should confer with the student in advance of the reporting period to bring about improvements and minimize the chances of a continuing problem. A conference with the parent is encouraged when there is a marked difference in student achievement from the previous reporting period, such as a decrease of more than one letter grade. Conferencing with parents is encouraged beyond the minimum conferencing provisions of this policy so that parents may be aware of the student's progress at all grade levels.

FINAL EVALUATION ACTIVITY - GRADES 7 THROUGH 12

A final evaluation activity (e.g., a written examination, an oral examination, a term paper, a project, an oral presentation, or any other pertinent activity) is required in all courses or mini-courses, at their conclusion. The teacher will involve students in determining the type of final evaluative activity. This activity must be based on the objectives of the course. The final decision rests with the teacher.

The grade for the final evaluative activity is part of the grade for that marking period.

The semester grade is determined by averaging the grades of each marking period of the semester.

In Grades 9-12, each semester average grade is determined independently. All grades except the semester average grades are used in determining the final average grade. For semester courses, the semester grade is the final grade.

When determining the semester or final grade, any average above midpoint receives the higher grade. If the average falls at the midpoint, the trend (student's progress during marking period) is used to determine the grade unless the teacher and the principal concur that a grade other than that which the trend would indicate better represents the student's achievement.

If a student receives E's for two or more reporting periods in the second semester of a full-year course, he shall receive an E for the year. However, the principal and teacher may decide on the basis of evidence that the overall achievement of the student warrants his passing the course.

Special Education

A minimum of two parent-teacher conferences are provided each school year for all students enrolled in special education programs. A report form is used in conjunction with these conference (MCPS Form 355-18).

Three special schools for the moderately retarded use an evaluation form which has been developed to parallel the curriculum guide (MCPS Form 355-19).

REPORTING ATTENDANCE

For students in Grades K through 8, the number of days absent, the number of days present, and the number of times tardy will be reported for each month of the school year.

For students in Grades 9 through 12, the number of periods absent from each class will be recorded for each subject for each reporting period. The letter grade rating will be listed above the diagonal line for the subject and the number of periods absent will be listed below the diagonal line. The teacher is not required to make a distinction between excused and unexcused absences on the reporting form.

PARENT OPTION FOR REPORTING STUDENT PROGRESS - GRADES 3-12

At the request of a parent, letter grades will supersede any approved alternate method of reporting in Graded 3 to 12 when requested at the beginning of the school year or the beginning of the second semester. In elementary schools in

which the methods outlined in this policy statement are in use, a parent may request to have his child's progress evaluated and reported by MCPS Alternate Form 355-20.

SYSTEM-WIDE TESTING PROGRAM

The system-wide testing program is an important element on the evaluation of the performance of Montgomery County Public Schools students as a group as well as in the evaluation of individual performance. While standardized tests alone do not measure all the results of instruction, test scores do contribute vital information about the existing patterns of educational achievement of the student population.

The current system-wide testing program provides for annual testing of all students in grades 7 and 9 during October-November; grade 12 (on a sampling basis) late in January; and grades 3 and 5 during April-May. The Cognitive Abilities Test (C.A.T.) which measures scholastic aptitude, and the Iowa Tests of Basic Skills (ITBS), the results of which indicate levels of skill development on ten different tests, are used in all grades except 12th. The Test of Academic Progress (TAP) is administered to seniors primarily for program evaluation.

Test results are returned to schools as soon as possible (usually within 90 days). In addition to the summary data on each grade level and test, school receive individual student reports (called ABCD cards) in sufficient quantity so that each elementary teacher (grades 4 and 6) receives an ABCD card for each student test records for previous years are on file in the school and on the student's test record card. Secondary teachers also receive, or have access to, the individual student test record.

Teachers should study the current test record for each of their students. This is particularly pertinent for elementary teachers (grades 4 and 6) at the beginning of the school year. The ABCD card contains the student's score on each subtest.

The scores are expressed as grade equivalents, stanines both national and county, and national percentiles. A careful analysis of each student's strengths and weaknesses should be useful for the initial planning of instruction in grades 4 and 6.

A bulletin on Interpreting and Using Test Results is currently in preparation and will be distributed to teachers early in the fall. This bulletin addresses the details of interpreting the different scores resulting from the system-wide testing program. It provides cautions and suggestions in using the data, including examples and suggested next-step procedures.

OTHER EVALUATION AIDS

A file of specimen sets of published tests is maintained by the Department of Pupil and Program Appraisal at the Washington Center, Room A-238 and professional staff members are available to assist teachers who wish to examine and use the collection.

A Selected Annotated Bibliography of standardized tests for use in elementary schools has been prepared and will be distributed early in the school year. A bibliography of standardized tests categorized by subject area is in preparation and should be distributed to secondary schools during school year 1972-1973.

The Department of Pupil and Program Appraisal maintains a substantial quantity and variety of standardized tests, which are available to teachers in support of school-based testing programs. These materials are requested through the school principal. School-based testing programs are intended to supplement the system-wide testing program.

The department has prepared and maintains several test item banks, which are available to teachers. These banks consist of test items designed to assess learning objectives related to the respective courses, and the items have been field-tested. Teachers can select from the item banks to design their own tests. The test item banks currently available are:

Grade 7 - Life Science

Grade 8 - Physical Science

Grade 9 - Laboratory Science

Grade 11 - Earth Science

Grade 12 - Physics

U.S. History and Government I

U.S. History and Government II

New evaluation instrumentation, techniques, and procedures are constantly reviewed and developed by the Department of Pupil and Program Appraisal. Teachers can obtain information and assistance by writing or calling that department.

The following articles related to evaluation are available in your support library. You should study them now.

Developing Teacher Competencies

Ch. 5 Developing a Competency for Evaluation in the Classroom. pp. 166-206
Ch. 6 Recognizing and Assessing Creativity, pp. 207-245
Ch. 8 Assessment of Teacher Competencies, pp. 306-316

Teaching Behavior Improvement Program

Student Feedback pp. 170-312
Instrumentation pp. 214-238

SECTION II

PARENT CONFERENCES

Time spent in parent-teacher conferences can be very valuable to both the teacher and student and is really time saved. When the time comes for parent-teacher conferences, the following guidelines may be useful to you.

SOME GUIDE LINES TO FOLLOW IN CONDUCTING THE PARENT-TEACHER CONFERENCE

1. Establish a friendly atmosphere free from interruptions.
2. Be positive - begin and end the conference by enumerating favorable points.
3. Be truthful, yet tactful.
4. Be constructive in all suggestions to pupils and parents.
5. Help parents to achieve better understanding of their child as an individual.
6. Respect parents' and children's information as confidential.
7. Remain poised throughout the conference.
8. Be a good listener; let parents talk.
9. Observe professional ethics at all times.
10. Help parents find their own solutions to a problem.
11. Keep vocabulary simple; explain new terminology.
12. If you take notes during the conference, review them with parents.
13. Invite parents to visit and participate in school functions.
14. Base your judgments on all available facts and on actual situations.
15. Offer more than one possible solution to the problem.

Two books in your support library, Working with Parents and Conference Time are helpful in preparing for teacher-parent conferences.

A semi-self-instructional course, Parent-Teacher Conferences, to help elementary teachers develop skills in reporting pupil achievement to parents, is currently under development. It is planned for release (by February 1973) to elementary schools that request it.

SECTION III

RELATED READINGS

EVALUATION REFERENCES

NOT IN THE SUPPORT LIBRARY

Alexander, W. M. and Sayler, J. Galen. Secondary Education. New York: Rinehart & Co., Inc., 1950.

Bloom, Benjamin S. Taxonomy of Educational Objectives. Handbook I: Cognitive Domain. New York: Longmans, Green & Co., 1956.

Chauncey, Henry and Doblin, John E. Testing: Its Place in Education Today. New York: Harper and Row, 1963.

College Entrance Examination Board, Commission on Mathematics. Program for College Preparatory Mathematics. College Entrance Board, 1959.

Durost, Walter N. and Prescott, George A. Essentials of Measurement for Teachers. New York: Harcourt, Brace and World.

Katz, Martin R. Selecting an Achievement Test. Evaluation and Advisory Service Series No. 3. New Jersey: Educational Testing Service, 1958.

Kuder, G. Frederic and Richardson, M. W. The Theory of Estimation of Test Reliability. Psychometrika 2: 151-60, 1937.

Meyers, Sheldon S. Mathematics Tests Available in the United States. Washington, D. C.: National Council of Teachers of Mathematics, 1959.

Montgomery County. Administrative and Supervisory Handbook: Policies and Procedures. Montgomery County, Maryland: Montgomery County Public Schools, 1961.

Murray, Thomas R. Judging Student Progress. New York: Longmans, Green & Company, 1954.

National Council of Teachers of Mathematics. Evaluation in Mathematics. Twenty-sixth yearbook, 1961.

National Council of Teachers of Mathematics. The Place of Mathematics in Secondary Education. Columbia University, New York: Bureau of Publications, Teachers College, 1940.

National Society for the Study of Education. The Measurement of Understanding. Forty-fifth yearbook, Part I. Chicago: The University of Chicago Press, 1946.

Oregon State Department of Education. Mathematics in Oregon Secondary Schools. Salem, Oregon: Oregon State Board of Education, 1961.

Progressive Education Association. Mathematics in General Education. New York: D. Appleton Century Company, 1940.

Remmers, H. H. and Gage, N. L. Educational Measurement and Evaluation. Revised Edition. New York: Harper and Brothers, 1955.

Ross, C. C. And Stanley, J. C. Measurement in Today's Schools, Third Edition. New Jersey: Prentice-Hall, 1954.

Siegel, Sidney. Nonparametric Statistics for the Behavioral Sciences. New York: McGraw-Hill, 1956.

Smith, E. R. and Tyler, Ralph W. Appraising and Recording Students Progress. New York: Harper and Brothers, 1942.

Thomas, R. Murray. Judging Student Progress. New York: Longmans, Green and Co., 1954.

Thorndike, Robert L. Reliability--Educational Measurement. Washington, D. C.: American Council on Education, 1951.

Thorndike, Robert L. and Hagen, Elizabeth. Measurement and Evaluation. New York: John Wiley and Sons, 1955.

Travers, Robert M. W. How To Make Achievement Tests. New York: The Odyssey Press, 1950.

NOTE: See the Department of Educational Media and Technology for other readings.

SUPPORT LIBRARY MATERIALS RELATED TO EVALUATION

Teaching Behavior Improvement Program (ERIC publication)

Student Feedback pp 170-312
Instrumentation pp 214-238

Developing Teacher Competencies

Ch. 5 Developing a Competency for Evaluation in the Classroom, pp 166-206
Ch. 6 Recognizing and Assessing Creativity, pp 207-245
Ch. 8 Assessment of Teacher Competencies, pp 306-316

Toward Master Teaching
Career Counseling
Working with Parents
Conference Time
Starting the Year Right

NOTE: The filmstrip "Making Your Own Tests" is available in the Educational Materials Laboratory Media and Technology Center.

SECTION IV

MCPS PERSONNEL EVALUATION

Your school system has a special form for teacher evaluation. Your program leader will be able to get you the most recent version of this evaluation form. In general you are evaluated on the following five areas:

Scholarship
Teaching Power
Executive Ability
Professional Responsibility
Personality

NOTE: Also read Toward Master Teaching carefully.

AREAS OF TEACHER EVALUATION

I. Scholarship

A. Familiarity with courses of study

B. Breadth of information

C. Knowledge and demonstrated use of teaching for development of the thinking processes

D. Effort toward improvement since coming to Montgomery County

1. Workshops
2. Inservice training
3. Reading in areas of
   a) Individualized instruction
   b) Team teaching
   c) Creativity or other special interests

II. Teaching Power

A. Use of Problem Solving Techniques

B. Adapting program to meet exceptional children's needs and capacity

C. Use of questions - Are they open ended? Do they involve more than a "yes" or "no" response? Do they involve any of the thinking processes other than a mere recall of events?

D. Is the assignment pertinent and meaningful?

E. Do the daily plans and long-range plans reflect teacher-pupil planning?

III. Executive Ability

A. Are you able to interpret the program to parents?

B. Do you know what is going on in other rooms?

C. Do you plan with your children?

D. Is your area left clean and neat at the end of the day?

E. Have you done any reading in team teaching, differentiated staffing, individualizing instruction?

F. Are your long-range plans written?

IV. Professional Responsibility

A. What have you done to enhance your professional growth?

B. Do you show respect for group decision?

C. Do you readily accept professional criticism from your fellow teammates?

D. Are you a cooperative team member?

E. Have you developed a professional closeness with your co-teachers?

F. Do you observe school policies and procedures?

G. Have you studied differentiated staffing enough to know whether you are committed to the concept?

H. Have you moved in your professional thinking to the point of utilizing teacher strength on a whole school basis rather than thinking of class size and how many kids are in a group?

I. Has your level of professional thinking been raised to the point of thinking of improvement of overall school program?

V. Personality

A. How are you accepted by your co-workers?

B. Do personal problems intrude into your professional life?

C. Are you willing to share your ideas and aid your colleagues?

D. Are you a giver or a taker?

E. Do you exude a sense of happiness?

F. Does your sense of human relations extend to children as well as your colleagues?

G. Are you willing to share responsibility for instruction of the pupils assigned to you?

H. Is it a high risk for you to feel that children may like another teacher better than you?

I. Does your sense of humor help your team over rough spots?

J. Does your emotional stability lend strength to the team?